Liikennevirasto
Finnish Transport Agency

8 · 2011
STATISTICS OF
THE FINNISH TRANSPORT AGENCY

Finnish Railway Statistics 2011

SUOMEN VIRALLINEN TILASTO
FINLANDS OFFICIELLA STATISTIK
OFFICIAL STATISTICS OF FINLAND

Liikenne ja matkailu 2011
Transport och turism
Transport and Tourism

Finnish Railway Statistics 2011

Statistics of the Finnish Transport Agency 8/2011

Finnish Transport Agency
Helsinki 2011

Photograph on the cover: Markku Nummelin

Online publication pdf (www.liikennevirasto.fi)

Statistics of the Finnish Transport Agency
ISSN 1798-8128
ISBN 978-952-255-707-0

Finnish Railway Statistics
ISSN 1799-4330

Official Statistics of Finland
ISSN 1796-0479

Finnish Transport Agency
P.O. Box 33
FI-00521 HELSINKI, Finland
Tel. +358 (0)20 637 373

FOREWORD

The publication is an English version of the Finnish Railway Statistics 2011. It contains statistical data on railway network and railway traffic in Finland.

The publication is published by the Finnish Transport Agency, which was formed on 1 January 2010 as the Finnish Rail Administration, the waterways functions of the Finnish Maritime Administration and the central administration of the Finnish Road Administration merged.

The publication has been prepared by Harri Lahelma, Finnish Transport Agency, and Vesa Juuti, VR-Group Ltd.

Helsinki, September 2011

Finnish Transport Agency

CONCEPTIONS

Length of line	=	total length of main and secondary lines excluding sidings
Track length	=	total length of main and secondary tracks including sidings
Train-kilometre	=	distance of one kilometre covered by the train
Gross ton-kilometres	=	total gross weight of the locomotive and the carrying stock of a train in tons X corresponding train-kilometres
Gross ton-kilometres hauled	=	gross weight of the carrying stock of a train in tons X corresponding train-kilometres
Vehicle-axle-kilometres	=	number of axles of the vehicles of a train X corresponding train-kilometres
Locomotive-kilometre	=	distance of one kilometre covered by the locomotive
Passenger-kilometre	=	distance of one kilometre covered by the passenger
Tonne-kilometre	=	one conveyance kilometre of one ton of goods

The following symbols have been used in the tables:

"	=	repetition
–	=	nothing to indicate
0 or 0.0	=	the quantity is smaller than half of the unit used
..	=	information not available
.	=	category not applicable

A horizontal line drawn across a time series shows substantial breaks in the homogenity of a series.

QUALITY STATEMENT

Relevance of the statistical data

The Finnish Railway Statistics is the basic statistic of the Finnish railways.

The Finnish Railway Statistics describes the state of the rail network with time series by line section. The data includes information on the tracks, rolling stock, rail traffic, passenger services, freight traffic, financing and accidents. The data covers the entire Finnish rail transport system. The statistic serves the entire rail sector by producing statistical information for planning, follow-up, monitoring and decision making.

Regarding tracks, information is presented on the length of line which is classified according to the number of tracks, line classification and operational classification. Lines are shown on a map and classified according to line section to passenger and freight lines and showing the line length, lines superstructure properties, line age, electrification and signalling systems and their age, the number of level crossings and their warning devices. The line sections are also listed according to the date on which they were opened for traffic. Time series are shown for part of the data.

The changes in rail types and investments in track construction and maintenance are also shown as time series. In addition, the number of rail traffic operating points divided into passenger and freight traffic is shown and buildings and land and water areas connected to the railways.

Regarding tractive stock, information is presented on VR's rolling stock by type of tractive stock and locomotive, passenger services' cars and the number of seats and freight wagons and their carrying capacity in tonnes.

The main data on train and tractive stock performance are shown as a time series. The volume of rail traffic by line section is shown as a map of gross tonnes carried. Vehicle-axle-kilometres which represents the distance covered by the wagons by train and wagon type and rail traffic energy consumption as a time series are presented.

Passenger traffic journeys and freight traffic volumes are presented as a time series. Long-distance passenger and freight volumes by line section are shown as a map. The development of freight transport distances is shown as a time series. Wagon-specific data is presented on Finland's international traffic.

Rail traffic volume are presented as indexed time series. The number of railway accidents classified according to the type of accident, fatalities and serious injuries is presented. A historical survey for the main quantities related to the railways, key figures for private railways and data on various countries is also presented.

The Railway Act (304/2011) obliges the operator to provide the Finnish Transport Agency with information on services it operates for e.g. statistical purposes.

The EC regulation No 91/2003 states the classifications and definitions on the basis of which the member states produce railway statistics. The International Union of Railways (UIC) has issued more detailed specifications on the matter.

Statistics production process description

Data concerning the track is obtained from the Finnish Transport Agency's track databases. The information is updated every year to reflect the changes brought by maintenance work and investments in the rail network.

Data concerning rail traffic and rolling stock is obtained for the most part from the operator's continually updated statistical databases which number several dozen. Some of the data is connected to monitoring of sales and some to separate registers.

Correctness and accuracy of the data

The coverage of the data is good because the rail network is a closed system. The accuracy and reliability of the data is for the most part good also at international standards because there is only one rail operator in Finland at the moment. Nearly all rail statistics is based on so called "full statistics". An exception are commuter services passenger volumes which have to be estimated based on occasional passenger countings.

The accuracy and timeliness of published data

The Finnish Railway Statistics is published annually by the end of June and it includes the final annual data of the previous year.

Availability of the information

The Finnish Railway Statistics is published annually in print and as pdf on the Finnish Transport Agency's website. Unpublished, more detailed statistical information is available from the Finnish Transport Agency and the operator.

Comparability of the statistics

The data from different periods offers good comparability. Comparable time series is available from several decades. Changes have, however, been made in the classifications and definitions over the years and they are indicated in the footnotes of the point in question.

The Finnish Railway Statistic has been compiled from 1933 and before that the statistics were published as reports of the National Board of Railways from 1873 to 1932.

Clarity and coherence

The statistical titles of the railways are determined at the international level by the EU statistical authority (Eurostat) and the International Union of Railways (UIC). The various concepts and definitions used by EU member states have made it harder to compare international railway statistics. The EC regulation on railway statistics from 2003 has, however, improved the situation.

CONTENTS

Line [1] and transport stock [2]

		2010	2009	Change, %
Length of line	km	5 919	5 919	0.0
of which electrified	km	3 072	3 067	0.2
Track length	km	8 862	8 847	0.2
Tractive stock strength	number	644	641	0.5
Hauled stock in commercial traffic		11 535	11 557	-0.2
Passenger stock	number	1 071	1 033	3.7
Freight stock	number	10 464	10 524	-0.6
Railway operating points	number	350	349	0.3
Buildings				
VR	number	362	340	6.5
VR	1 000 m^3	4 013	3 847	4.3

Train traffic [2]

		2010	2009	Change, %
Train-km	1 000	51 000	50 019	2.0
Passenger traffic		35 048	35 120	-0.2
Freight traffic		15 952	14 899	7.1
Gross tonne-km	1 000 000	33 091	31 412	5.3
Locomotive-km	1 000	70 822	69 244	2.3
Energy consumption in train traffic				
Electricity	million kWh	665	645	3.1
Diesel oil	million l	37.8	35.1	7.7

Passenger traffic [2]

		2010	2009	Change, %
Journeys	1 000	68 950	67 555	2.1
Passenger-km	million	3 959	3 876	2.1

[1] Lines owned by the Finnish Transport Agency.
[2] Data relating to VR.

Freight traffic [2)]

		2010	2009	Change, %
Freight volumes	1 000 tons	35 795	32 860	8.9
Domestic		23 249	21 360	8.8
International		12 545	11 500	9.1
Tonne-km	million	9 750	8 872	9.9
Domestic		6 915	6 141	12.6
International		2 835	2 731	3.8

Rail traffic volume indice [2)] (2000 = 100)

	2010	2009
Passenger traffic	120	118
Freight traffic	88	81
Total rail traffic	104	100

Railway accidents [2)]

	2010	2009
Number of railway accidents	1	2
Passengers		
Killed	0	0
Seriously injured	0	0

1 LINE AND TRANSPORT STOCK [1) 2)]

1.1 LINE AND SUPERSTRUCTURE

Rail gauge		1.524 m	2010
Length of line		km	5 919
Single track		km	5 349
		%	90.4
of which electrified		km	2 502
Double track or more		km	570
		%	9.6
of which electrified		km	570
Classification of main lines [3)]			
Line category A		Track-km	580
Line category B		Track-km	939
Line category C		Track-km	2 273
Line category D		Track-km	2 801
Rails			
Track length		Track-km	8 862
Main tracks		Track-km	6 318
		%	71.3
Secondary tracks		Track-km	275
		%	3.1
Sidings		Track-km	2 269
		%	25.6
Switches		Number	5 638
Crossings		Number	43
Tunnels		Number	42
		Metres	38 896

1) At the end of 2010.
2) Lines owned by the Finnish Transport Agency.
3)

Line category	Rails		Ballast
A	K30	kg/m	gravel
B	K43, 54E1, 60E1	"	gravel, macadam
C	54E1, 60E1	"	macadam
D	54E1, 60E1	"	macadam

1.2 RAIL NETWORK

1.3 SECTIONS OF LINE ACCORDING TO DATE WHEN OPENED FOR TRAFFIC

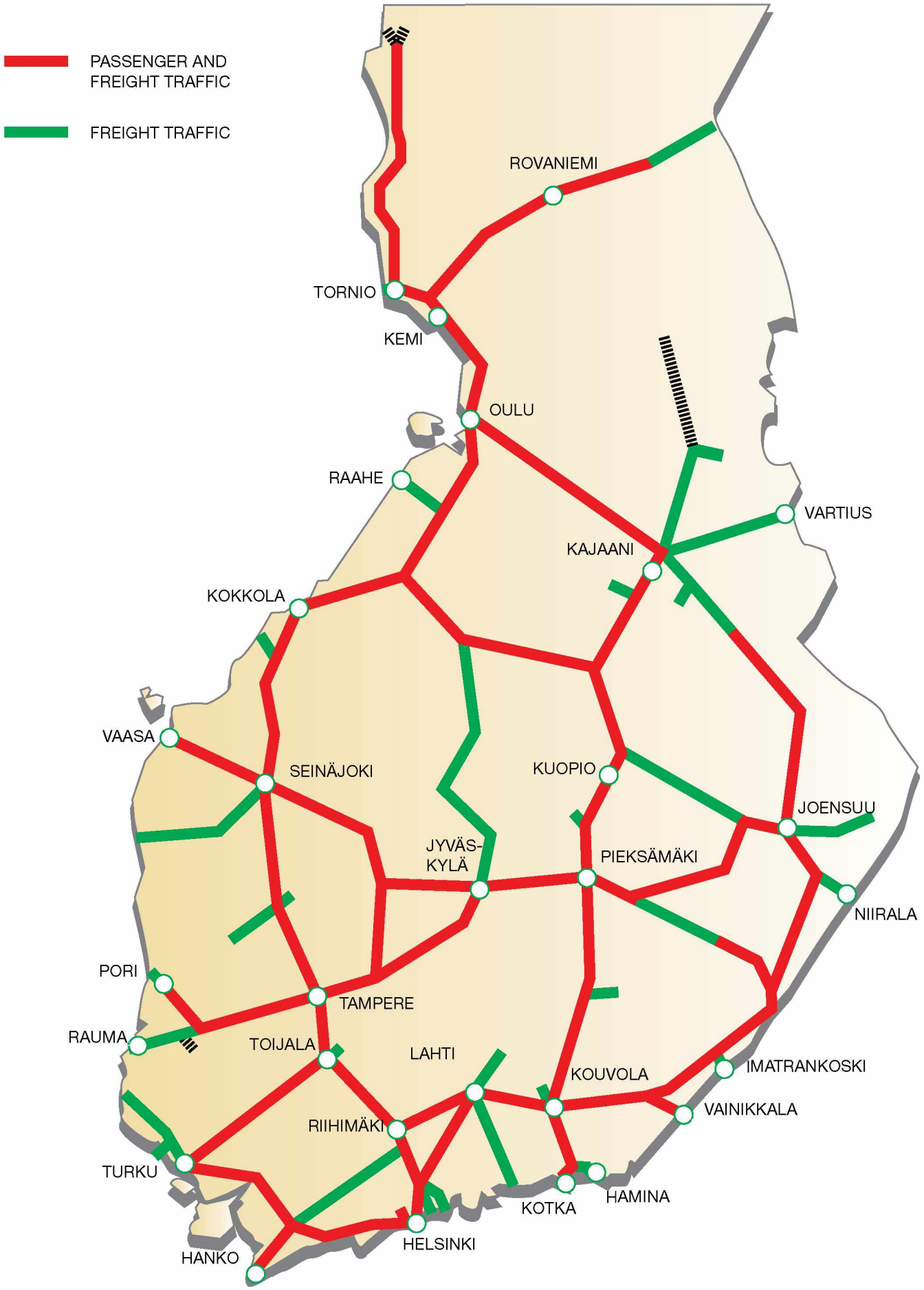
Section of line	Opened for traffic	km
Helsinki – Hämeenlinna	17.3.1862	107
Pasila – Sörnäinen	6.2.1863	3
Riihimäki – Lahti	1.11.1869	59
Lahti – Vesijärvi	1.11.1869	3
Lahti – Vainikkala Border	11.9.1870	155
Hanko – Hyvinkää[1)]	8.10.1873	149
Porvoo – Kerava[2)]	16.7.1874	33
Turku – Toijala	22.6.1876	128
Tampere – Hämeenlinna	22.6.1876	80
Turku – Turku Harbour	22.6.1876	3
Tampere – Vaasa (Nikolainkaupunki)	29.9.1883	306
Simola – Lappeenranta	1.8.1885	18
Seinäjoki – Oulu	1.11.1886	335
Oulu – Toppila	1.11.1886	4
Kokkola – Ykspihlaja	1.11.1886	5
Pännäinen – Leppäluoto	1.11.1887	14
Kouvola – Kuopio	1.10.1889	273
Suonenjoki – Iisvesi	1.10.1889	6
Kouvola – Kotka	1.10.1890	54
Kouvola – Kymintehdas	1.10.1892	9
Imatrankoski Border – Imatrankoski (Imatra)	1.11.1892	5
Vaasa (Nikolainkaupunki) – Vaskiluoto	1.8.1893	4
Joensuu – Niirala Border	1.11.1894	70
Helsinki – Eteläsatama	16.12.1894	4
Eteläsatama – Katajanokka	1.10.1895	1
Imatrankoski (Imatra) – Vuoksenniska	16.10.1895	7
Tampere – Pori	1.11.1895	134
Kokemäki (Peipohja) – Rauma[3)]	15.4.1897	47
Haapamäki – Jyväskylä	1.11.1897	77
Jyväskylä – Suolahti	1.11.1898	40
Inkeroinen – Hamina[4)]	5.10.1899	26
Pori – Mäntyluoto	1.11.1899	21
Turku – Karjaa	1.11.1899	113
Tuomioja (Lappi) – Raahe[5)]	5.12.1899	28
Raahe – Lapaluoto[5)]	1.9.1900	6
Kuopio – Iisalmi	1.7.1902	85
Pasila – Karjaa	1.9.1903	84
Tuira – Tornio	16.10.1903	129
Iisalmi – Kajaani	16.10.1904	83
Savonlinna – Parikkala	1.2.1908	60
Laurila – Rovaniemi	16.10.1909	107
Joensuu – Lieksa	10.9.1910	104
Lieksa – Nurmes	16.10.1911	56
Kiukainen – Kauttua[3)]	1.2.1913	13
Seinäjoki – Kristiinankaupunki	1.8.1913	112
Perälä – Kaskinen	1.8.1913	24
Huutokoski – Varkaus	1.11.1914	18
Pieksämäki – Savonlinna	1.11.1914	106
Jyväskylä – Pieksämäki	1.6.1918	79
Tornio – Tornio Border	1.4.1919	2
Tornio – Kukkola	24.3.1922	17
Kukkola – Karunki	1.1.1923	10
Kajaani – Kontiomäki	1.1.1923	26
Turku – Mynämäki	1.9.1923	30
Raisio – Naantali	16.11.1923	6
Iisalmi – Kiuruvesi	1.12.1923	34
Mynämäki – Kalaranta	1.9.1924	36
Kiuruvesi – Pyhäsalmi	1.1.1925	32
Pyhäsalmi – Haapajärvi	1.8.1925	33
Haapajärvi – Ylivieska	1.12.1925	55
Karunki – Korpikylä	1.1.1926	9
Paltamo (Kiehimä) – Vuokatti	16.10.1926	42
Vuokatti – Sotkamo (Hirvenniemi)	16.10.1926	6
Korpikylä – Aavasaksa	1.11.1927	34
Oulu – Muhos	1.11.1927	36
Joensuu – Sysmäjärvi	1.12.1927	44
Vuokatti – Saviaho	23.1.1928	23
Sysmäjärvi – Outokumpu	15.5.1928	3
Aavasaksa – Kaulinranta (Kauliranta)	1.9.1928	7
Muhos – Utajärvi	1.12.1928	22
Lohja – Tytyri	21.12.1928	3
Vilppula – Mänttä	1.1.1929	8
Saviaho – Rumo	1.2.1929	17
Utajärvi – Vaala	16.10.1929	34
Rumo – Nurmes	1.11.1929	44
Vaala – Paltamo (Kiehimä)	1.12.1930	57
Markkula – Kaupinkangas	15.5.1931	10
Kemi – Ajos	1.11.1931	9
Lahti – Jyränkö	1.1.1932	35
Jyränkö – Heinola	22.5.1932	2
Pori – Niinisalo	16.12.1933	64
Rovaniemi – Kemijärvi	1.9.1934	83
Lappeenranta – Imatra T (Tainionkoski)	1.10.1934	41
Niinisalo – Kairokoski (Parkano)	1.1.1935	37
Imatra T (Tainionkoski) – Kaukopää	16.11.1935	3
Vuoksenniska (Rönkkä) – Simpele	1.11.1937	39
Kairokoski – Virrat	1.11.1937	51
Hillo harbour line	1.12.1937	6
Toijala – Valkeakoski	1.9.1938	18
Virrat – Haapamäki	15.11.1938	40
Kontiomäki – Hyrynsalmi	1.12.1939	46
Varkaus – Vihtari	1.12.1939	65
Vihtari – Viinijärvi	22.4.1940	36
Haukipudas – Martinniemi	1.10.1940	5
Raippo – Melkkola	25.8.1940	2
Kemijärvi – Kelloselkä	1.11.1942	79
Suolahti – Äänekoski	16.11.1942	7
Simpele – Parikkala	1.12.1947	19
Kovjoki – Uusikaarlepyy	10.4.1949	8
Orivesi – Jämsä	15.7.1950	56
Jämsä – Jämsänkoski	1.7.1951	4
Kauppi – Ylihärmä	1.10.1951	3
Jämsä – Kaipola (Perälänlahti)	1.8.1952	7
Hyrynsalmi – Laaja	1.12.1952	18
Murtomäki – Otanmäki	1.11.1953	25
Joutjärvi – Mukkula	1.2.1954	7

1.3 SECTIONS OF LINE ACCORDING TO DATE WHEN OPENED FOR TRAFFIC

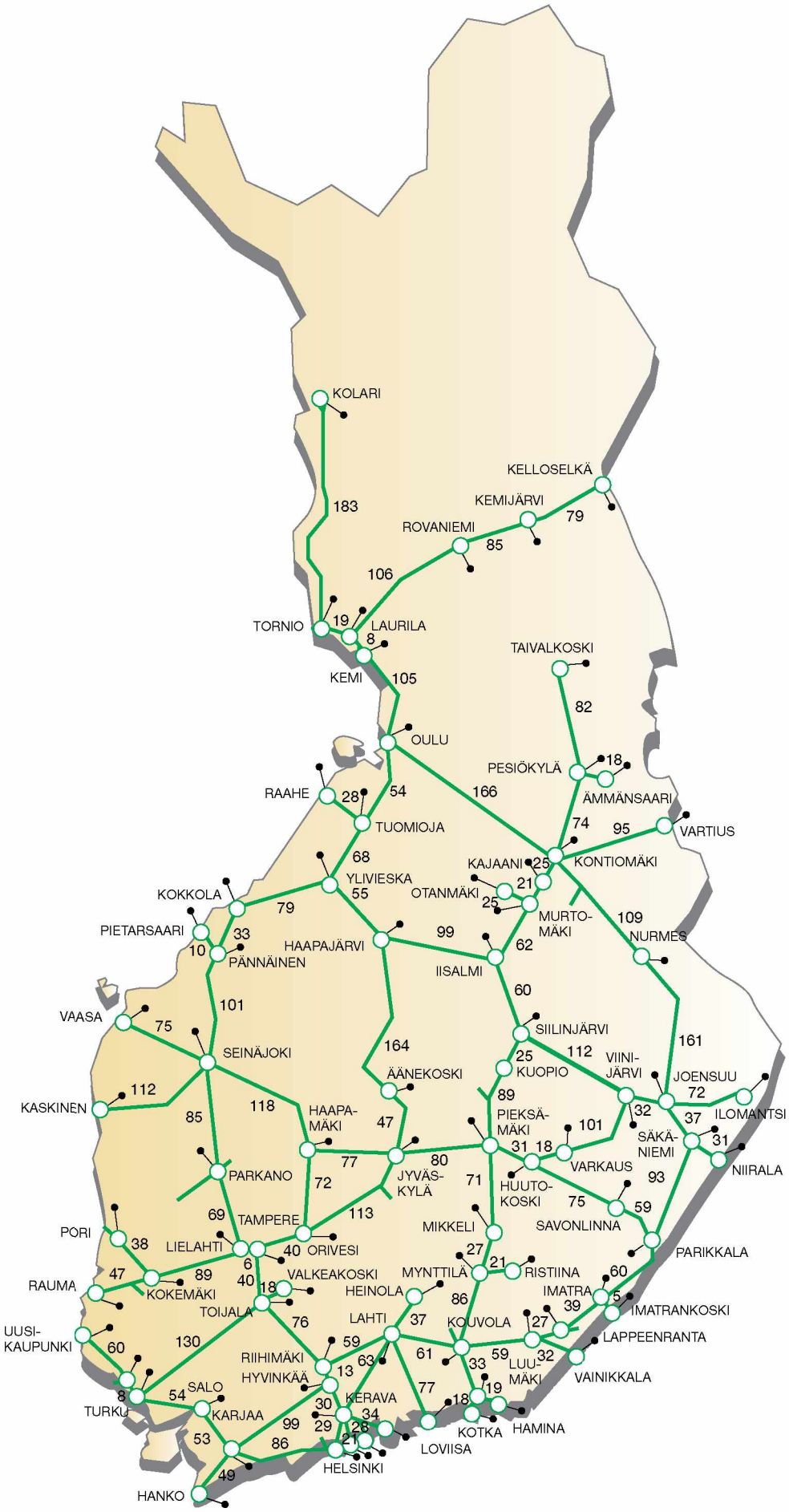
Section of line	Opened for traffic	km
Äänekoski – Saarijärvi	1.4.1955	30
Haapajärvi – Muuras	16.12.1954	23
Laaja – Pesiökylä	16.9.1955	10
Pesiökylä – Ämmänsaari	1.12.1955	18
Muuras – Pihtipudas	1.10.1956	25
Siilinjärvi – Sänkimäki	15.11.1956	15
Pesiökylä – Kovajärvi	15.11.1956	11
Joensuu – Keskijärvi	15.11.1957	31
Kovajärvi – Vääkiö	15.11.1957	10
Sänkimäki – Juankoski	15.11.1957	27
Keskijärvi – Tuupovaara	15.9.1958	13
Saarijärvi – Enonjärvi	1.1.1959	29
Pihtipudas – Seläntaus	15.1.1959	7
Vääkiö – Leino	15.1.1959	20
Leino – Taivalniska	1.11.1959	39
Enonjärvi – Kannonkoski	1.11.1959	8
Kannonkoski – Varanen	1.1.1960	11
Seläntaus – Keitelepohja	15.2.1960	12
Lahti – Loviisa Harbour (Valko) [6]	2.5.1960	77
Varanen – Keitelepohja	1.10.1960	19
Porvoo – Porvoo Centre	28.5.1961	1
Taivalniska – Taivalkoski	1.12.1961	2
Luumäki – Lappeenranta	15.9.1962	27
Tuupovaara – Herajärvi	1.8.1963	9
Kaulinranta (Kauliranta) – Pello	3.1.1964	42
Pello – Sieppijärvi	1.12.1965	43
Säkäniemi – Puhos	1.12.1965	28
Sieppijärvi – Kolari	1.12.1966	21
Puhos – Parikkala	1.12.1966	65
Herajärvi – Ilomantsi	1.8.1967	18
Kolari – Äkäsjoki	1.9.1967	17
Juankoski – Luikonlahti	1.11.1968	25
Seinäjoki – Parkano (Uusi-Parkano)	1.1.1970	84
Luikonlahti – Sysmäjärvi	1.1.1970	31
Parkano – Lielahti	1.1.1971	70
Olli – Sköldvik	14.2.1972	11
Vuonos Branch Line	1.3.1972	3
Niesa – Rautuvaara	1.4.1973	10
Vuokatti – Lahnaslampi	1.2.1974	12
Huopalahti – Martinlaakso	1.6.1975	8
Kontiomäki – Vartius Border	1.11.1976	93
Jämsänkoski – Jyväskylä	1.11.1977	53
Mynttilä – Ristiina	22.11.1979	21
Juurikorpi – Salmenkylä	1.2.1984	14
Mäntyluoto – Tahkoluoto	1.2.1984	11
Lautiosaari – Elijärvi	31.10.1985	8
Hovinsaari – Mussalo	1.3.1989	5
Martinlaakso – Vantaankoski	2.9.1991	1
Kytömaa – Hakosilta	3.9.2006	63
Kerava – Vuosaari	28.11.2008	21

1) Purchased by the State 1. 5.1875
2) " " " " 1.10.1917
3) " " " " 1. 7.1950
4) " " " " 1. 1.1916
5) " " " " 1. 3.1926
6) " " " " 1. 1.1959

1.4 OPERATIONS ON THE RAILWAY NETWORK



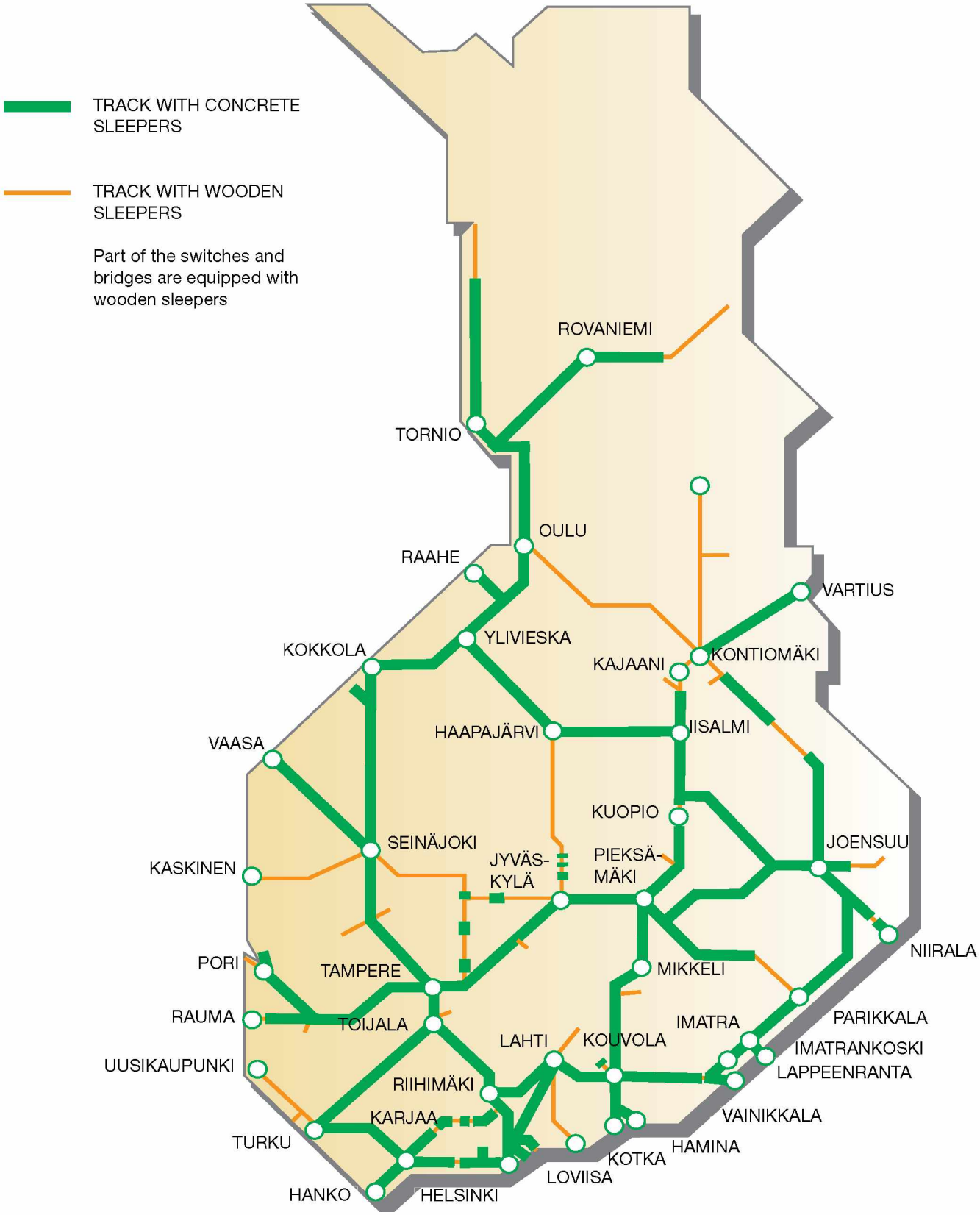
1.5 DISTANCES BETWEEN CERTAIN STATIONS, KM



1.6 TRACK SUPERSTRUCTURE

Tracks with concrete sleepersr

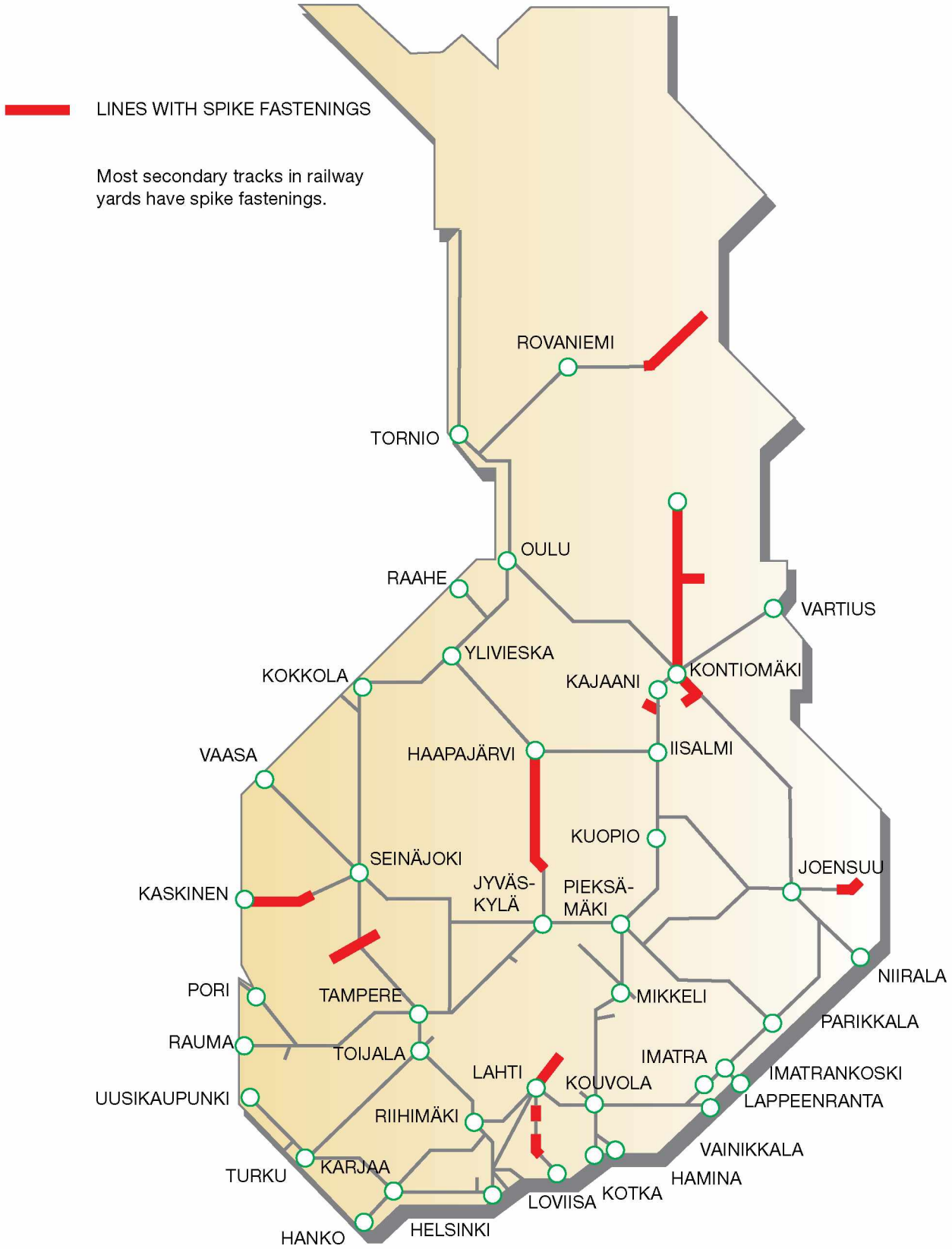
1995		2000		2005		2007		2008		2009		2010	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
1 400	22	2 827	44	3 941	61	4 288	65	4 419	67	4 548	69	4 634	70



1.6 TRACK SUPERSTRUCTURE

Lines with spike fastenings

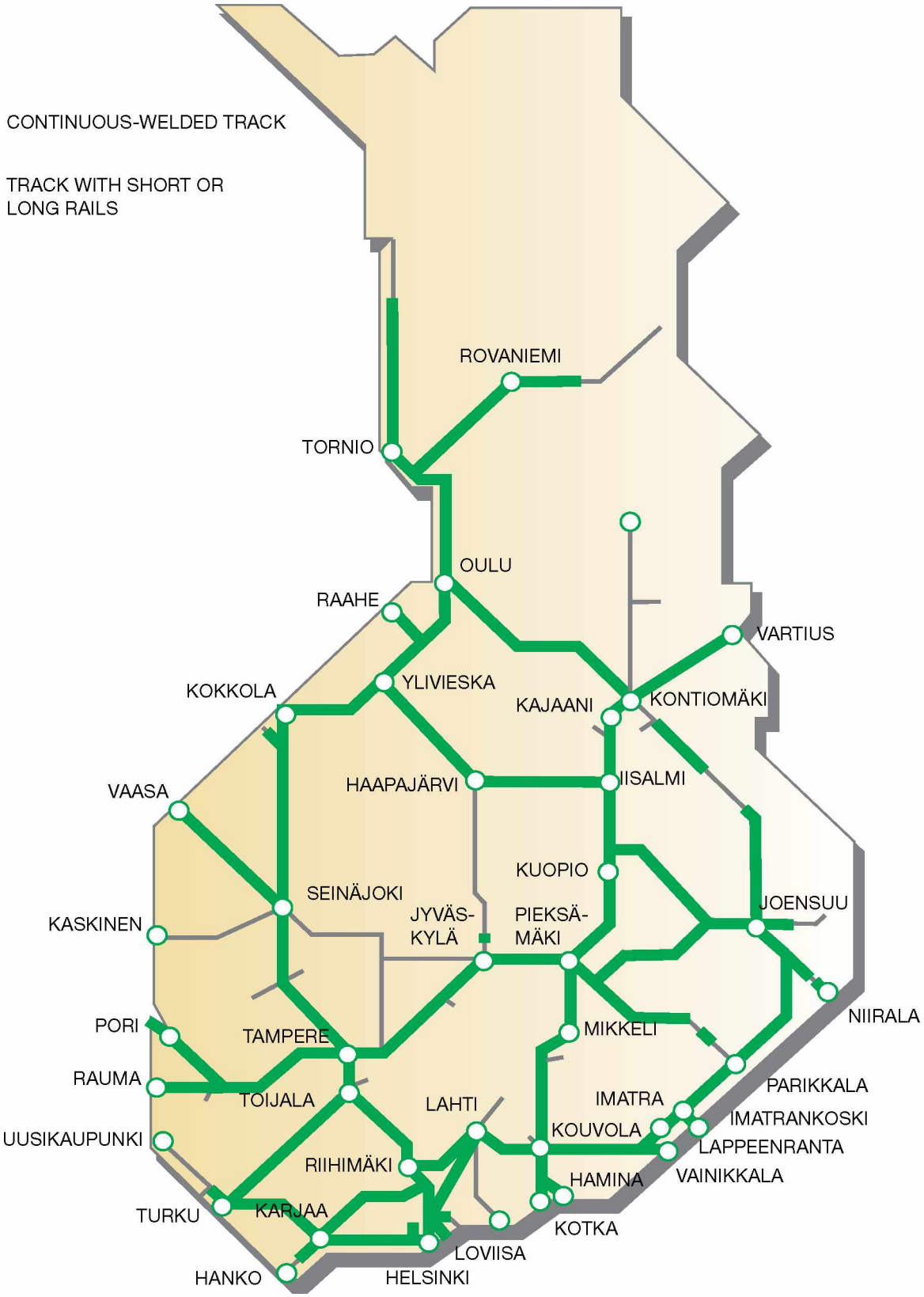
1995		2000		2005		2007		2008		2009		2010	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
1 970	31	1 340	21	1 170	18	1 050	16	940	14	850	13	730	11



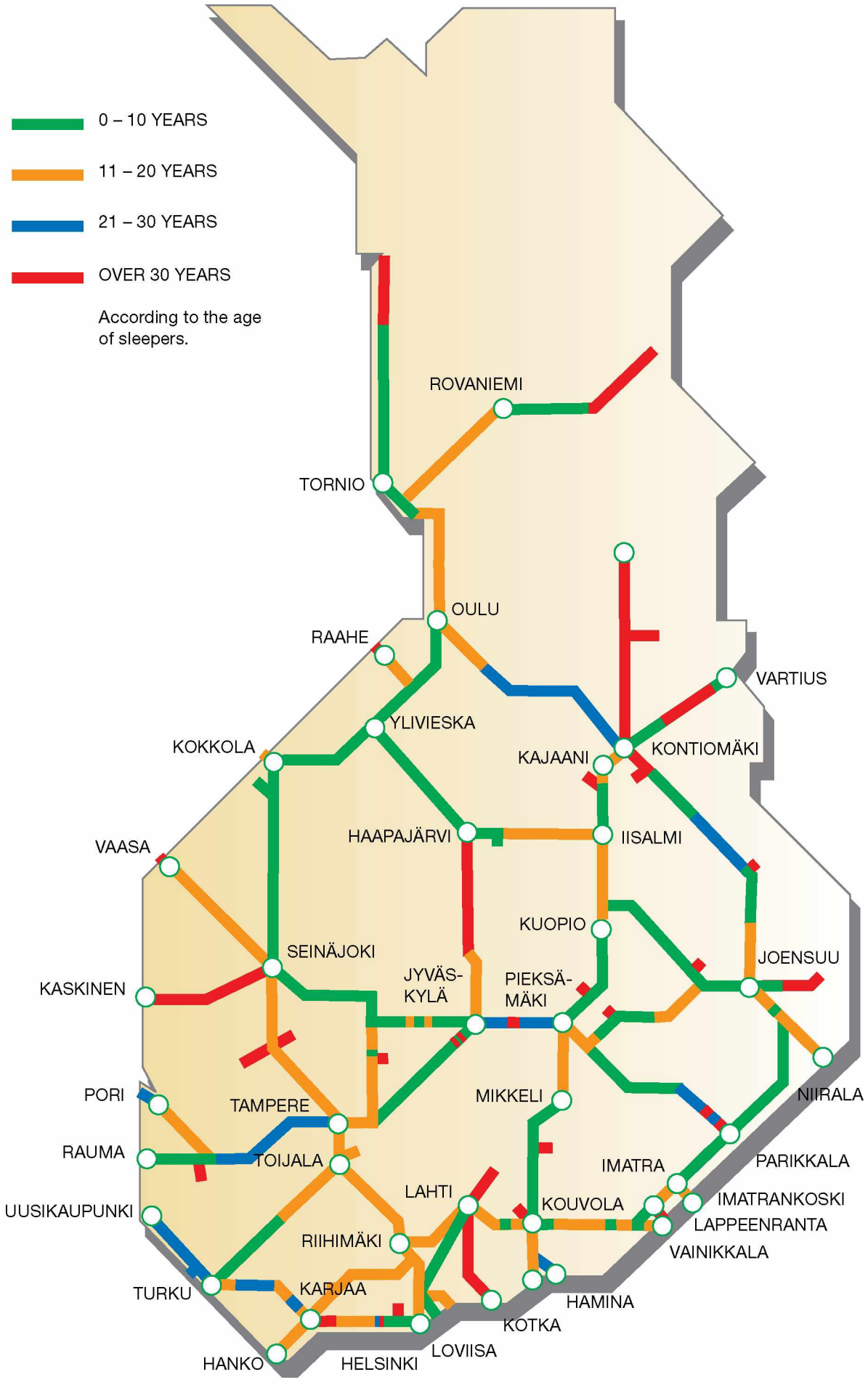
1.6 TRACK SUPERSTRUCTURE

Continuous-welded tracks

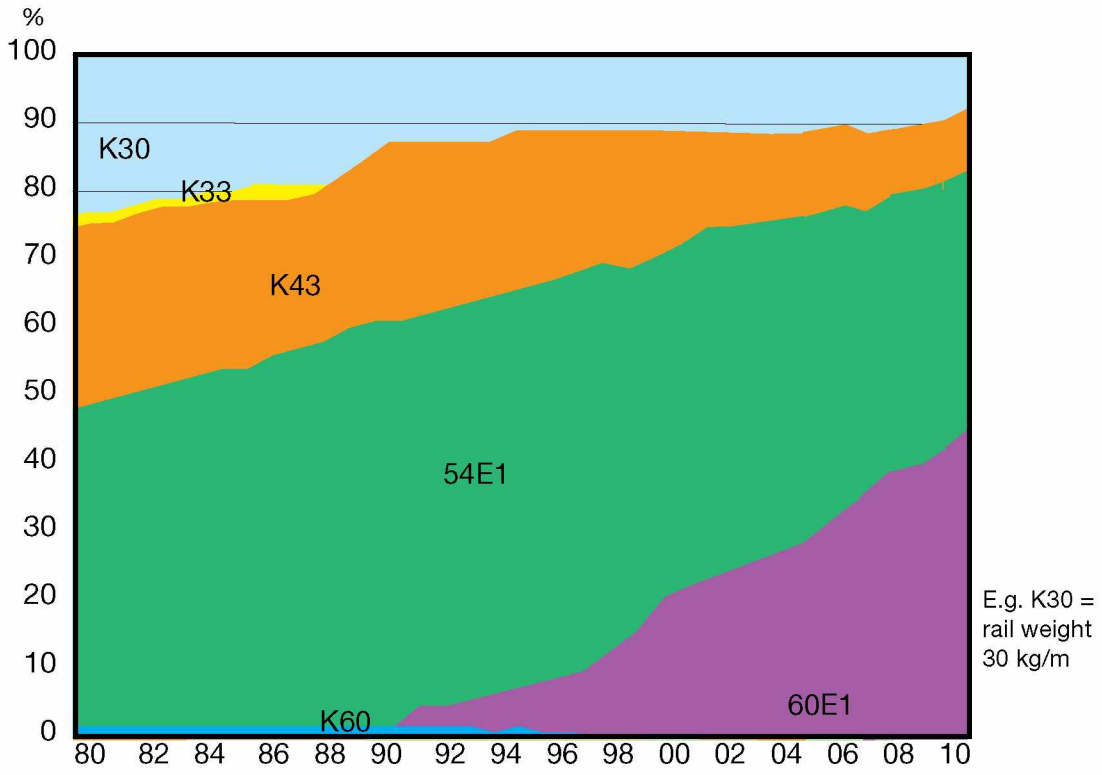
1995		2000		2005		2007		2008		2009		2010	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
3 660	58	4 245	66	4 488	70	4 702	72	4 828	73	4 927	75	5 010	76



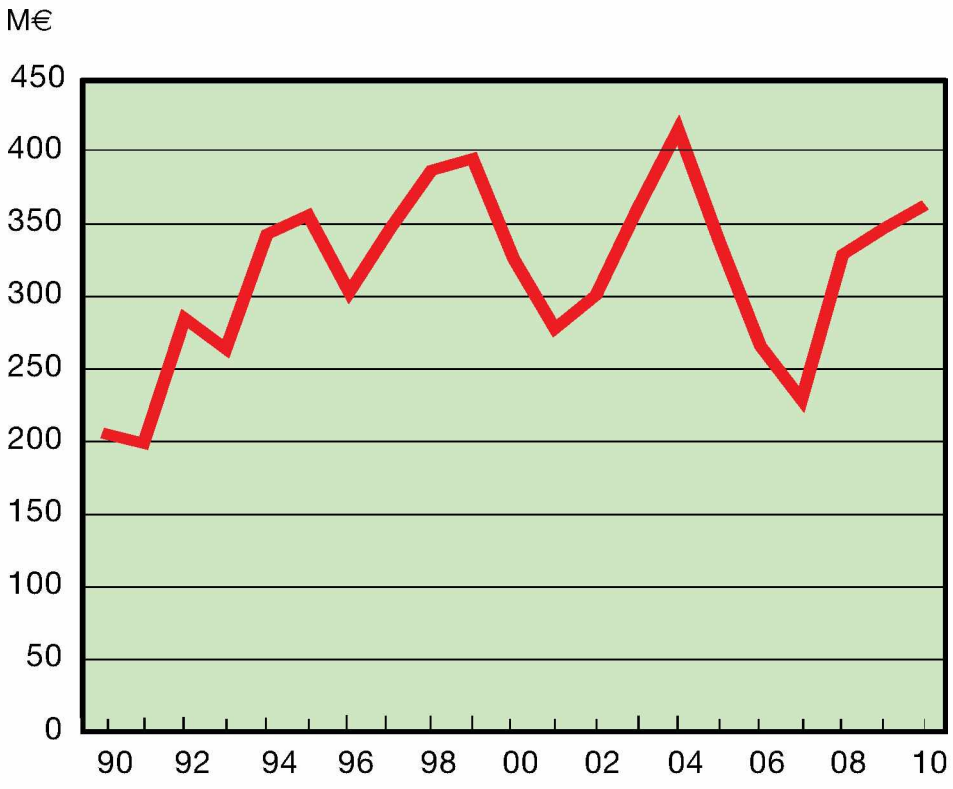
1.7 AGE OF TRACK SUPERSTRUCTURE



1.8 RAILS ON MAIN LINES IN 1980 - 2010

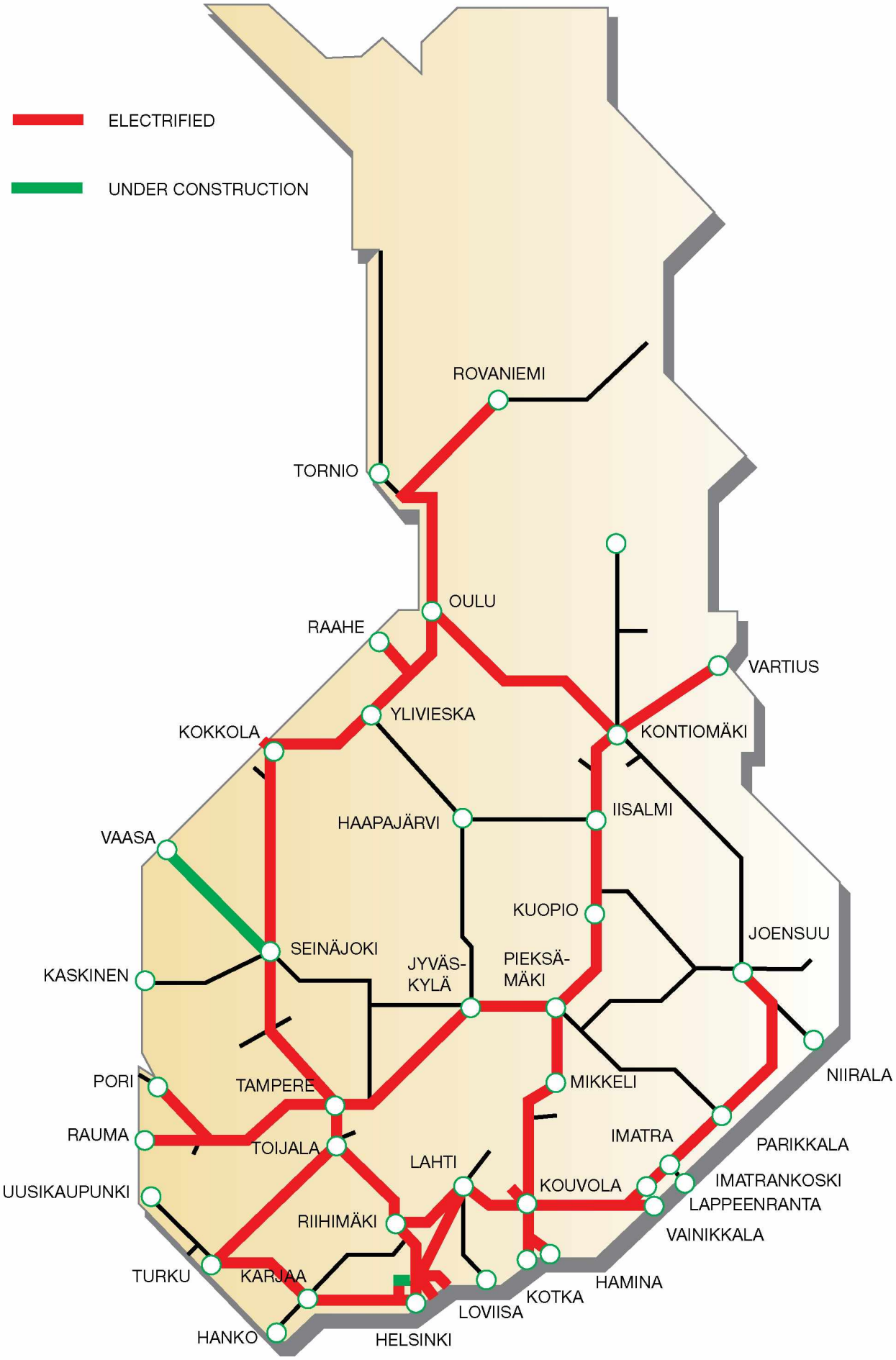


1.9 INVESTMENTS IN TRACK CONSTRUCTION AND MAINTENANCE IN 1990 - 2010 [1)]

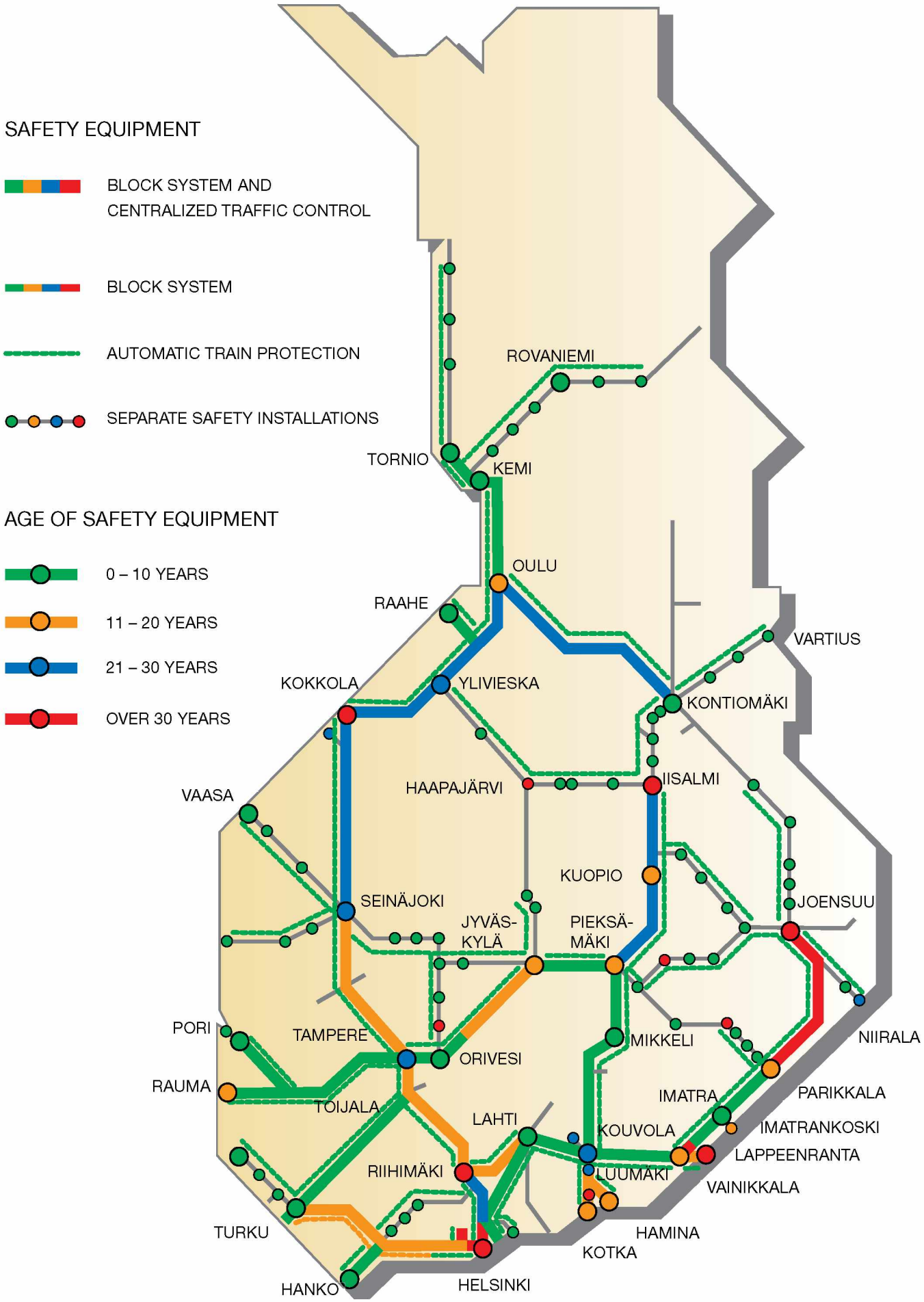


[1)] At fixed 2010 prices.

1.10 ELECTRIFIED LINES



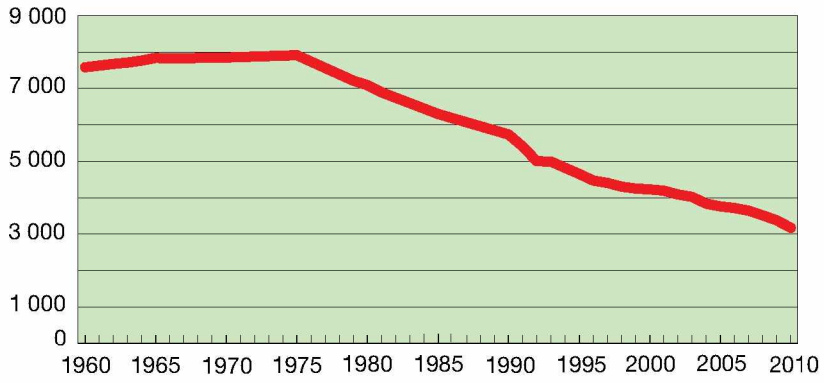
1.11 SAFETY EQUIPMENT AND ITS AGE



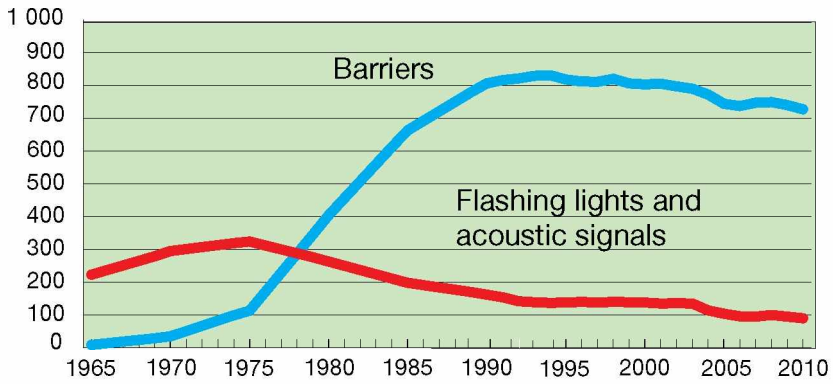
1.12 LEVEL-SEPARATED CROSSINGS AND LEVEL-CROSSINGS IN RAILWAYS

Level-separated crossings		
Overpasses		877
Underpasses		1 210
	Total	2 087
Level-crossings		
With safety equipment		
Barriers		674
Flashing lights and (or) acoustic signals		50
	Total	724
Without safety equipment		2 448
	Total	3 172
Grand total		5 259

1.13 DEVELOPMENT OF THE NUMBER OF LEVEL-CROSSINGS ON THE STATE-OWNED LINES IN 1960 - 2010



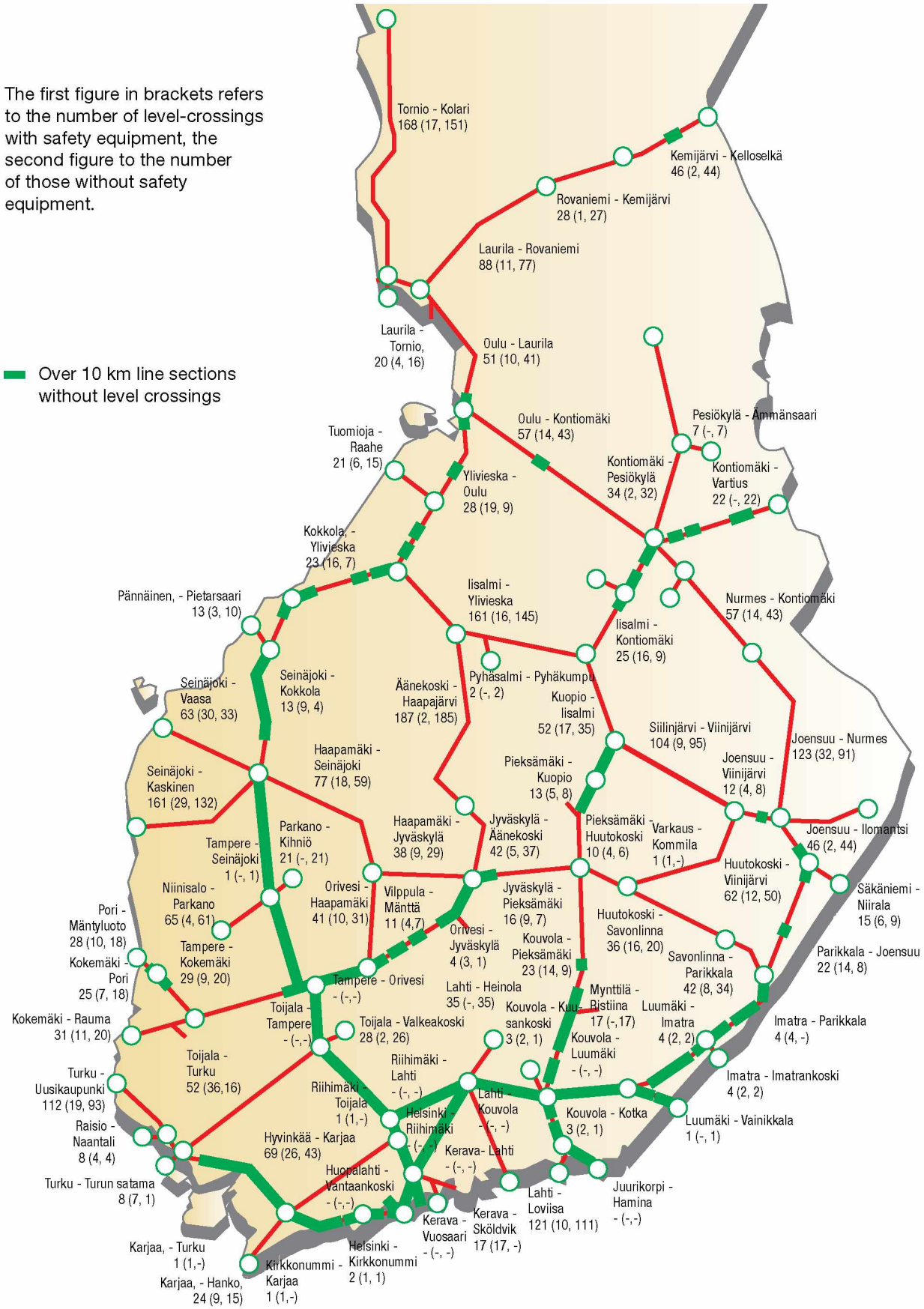
1.14 DEVELOPMENT OF THE NUMBER OF LEVEL-CROSSING SAFETY EQUIPMENT IN 1965 - 2010



1.15 NUMBER OF LEVEL-CROSSINGS AND LEVEL-CROSSING SAFETY EQUIPMENT ON THE MAIN LINES

Total of level-crossings [1]	2 780
With safety equipment	628
Without safety equipment	2 152

[1] Footpaths between platforms and service roads are not included in the statistics.



1.16 RAILWAY OPERATING POINTS

		2010	2009
Railway operating points	number	350	349
Passenger traffic		108	107
Freight traffic		153	154
Passenger and freight traffic		89	88

1.17 BUILDINGS

	VR			
	2010		2009	
	number	1 000 m^3	number	1 000 m^3
Administrative and traffic buildings	70	773	64	786
Freight terminals, depots, repair workshops	101	1 831	89	1 752
Workshops and main warehouses	25	790	37	790
Warehouses	44	68	47	80
Residential buildings	3	47	3	47
Other buildings	119	504	100	392
Total	362	4 013	340	3 847

1.18 LAND AND WATER AREAS

	VR	
	2010	2009
	hectares	hectares
Land areas	606	570
Water areas	–	–
Total	606	570

1.19 VR'S TRACTIVE STOCK BY TYPE OF TRACTION

		Number	Power (kW)	Total power (kW)
Electric locomotives				
Sr1		110	3 280	360 800
Sr2		46	6 000	276 000
	Total	156		636 800
Diesel locomotives				
Dv12		182	1 000	182 000
Dr14		24	875	21 000
Dr16		18	1 500	27 000
	Total	224		230 000
Electric railcars				
Sm1		47	860	40 420
Sm2		50	620	31 000
Sm3		18	4 000	72 000
Sm4		30	1 240	37 200
Sm5 [1]		3	2 600	7 800
Sm6 [2]		4	5 500	22 000
	Total	152		210 420
Diesel railcars				
Dm12		16	600	9 600
Other		96		20 400
Total tractive stock		644		1 107 220

[1] The Sm5 city trains owned by Pääkaupunkiseudun Junakalusto Oy.
[2] The Allegro trains owned by Oy Karelian Trains Ltd.

1.20 VR'S PASSENGER STOCK AND PASSENGER ACCOMMODATION

Passanger stock in commercial traffic	number	1 071
Electric railcars and railcar trailers	number	402
Diesel railcars	number	16
Restaurant cars	number	49
Guard's vans	number	9
Car-carriers	number	33
Metal-bodied sleeping cars	number	107
Other coaches	number	455
Total passenger accommodation		70 903
Seats		67 019
Sleeping accommodation		3 884

1.21 FREIGHT WAGONS AND THEIR CARRYING CAPACITY

VR-owned freight wagons in commercial traffic		
Number of wagons		10 464
2-axled		4 223
4-axled		6 240
Other		1
Carrying capacity	tonnes	489 378
Covered wagons		
Number of wagons		4 052
2-axled		2 361
4-axled		1 691
Carrying capacity	tonnes	170 620
Open wagons		
Number of wagons		5 903
2-axled		1 862
4-axled		4 040
Other		1
Carrying capacity	tonnes	289 633
Tank wagons		
Number of wagons		509
4-axled		509
Carrying capacity	tonnes	29 125
Private owner's wagons		
Number of wagons		67
2-axled		14
4-axled		53
Carrying capacity	tonnes	2 699

2.1 MAIN DATA ON TRAIN AND TRACTIVE STOCK PERFORMANCE IN 2006 - 2010

		2006	2007	2008	2009	2010
Train performance						
Train-km	**1 000**	**50 880**	**52 577**	**53 259**	**50 019**	**51 000**
By category of train						
Passenger trains		32 537	34 601	35 079	35 120	35 048
	%	63.9	65.8	65.9	70.2	68.7
Freight trains		18 343	17 976	18 180	14 899	15 952
	%	36.1	34.2	34.1	29.8	31.3
By type of traction						
Diesel tractive stock		10 225	8 762	9 018	7 547	7 690
	%	20.1	16.7	16.9	15.1	15.1
Diesel locomotives		8 993	7 100	7 418	5 989	6 177
Diesel railcars		1 232	1 662	1 600	1 558	1 513
Electric tractive stock		40 655	43 815	44 241	42 472	43 310
	%	79.9	83.3	83.1	84.9	84.9
Electric locomotives		27 882	28 830	28 604	26 942	27 771
Electric railcars		12 773	14 985	15 637	15 530	15 539
Gross tonne-km	**1 000 000**	**36 004.8**	**34 636.7**	**35 511.7**	**31 412.1**	**33 090.7**
Passenger traffic		11 201.0	11 392.8	11 536.9	11 568.6	11 518.1
	%	31.1	32.9	32.5	36.8	34.8
Freight traffic [1]		24 803.8	23 243.9	23 974.8	19 843.5	21 572.6
	%	68.9	67.1	67.5	63.2	65.2
Gross hauled tonne-km	**1 000 000**	**32 192.7**	**31 027.7**	**31 858.0**	**28 108.9**	**29 678.8**
Passenger traffic		9 588.7	9 889.8	10 021.7	10 029.8	9 985.0
	%	29.8	31.9	31.5	35.7	33.6
Freight traffic		22 604.0	21 137.9	21 836.3	18 079.1	19 693.8
	%	70.2	68.1	68.5	64.3	66.4

[1] Including single locomotives.

		2006	2007	2008	2009	2010
Vehicle-axle-km	1 000 000	2 471.7	2 379.2	2 431.5	2 114.8	2 199.8
By category of train						
Passenger traffic		749.1	769.7	781.5	776.5	773.3
	%	30.3	32.4	32.1	36.7	35.2
Freight traffic		1 722.6	1 609.5	1 650.0	1 338.3	1 426.5
	%	69.7	67.6	67.9	63.3	64.8
By category of vehicle						
Passenger stock		787.2	807.0	811.7	804.7	795.6
Coaches		542.6	518.0	511.2	507.0	500.4
Electric railcars		207.5	247.9	258.1	257.3	257.1
Other coaches		37.1	41.1	42.4	40.4	38.1
Wagons		1 684.5	1 572.2	1 619.8	1 310.1	1 404.2
Loaded wagons		914.4	869.9	897.4	715.9	769.9
Empty wagons		770.1	702.3	722.4	594.2	634.3
Coefficient of empty running of a wagon		45.0	44.0	44.0	45.0	45.0
VR-owned wagons		1 146.8	1 144.3	1 147.0	951.7	1 042.3
Private owners' wagons		19.8	17.6	13.6	8.8	10.1
CIS wagons		517.9	410.3	459.2	349.6	351.8
Tractive stock performance						
Locomotive-km	1 000	72 020	73 336	74 901	69 244	70 822
Diesel tractive stock		23 127	20 033	20 817	17 421	17 847
	%	32.1	27.3	27.8	25.2	25.2
Diesel locomotives		21 497	17 825	18 626	15 299	15 830
Light rail motor tractors		18	38	32	23	24
Diesel railcars		1 612	2 170	2 159	2 099	1 993
Electric tractive stock		48 893	53 303	54 084	51 823	52 975
	%	67.9	72.7	72.2	74.8	74.8
Electric locomotives		32 026	33 653	33 405	31 181	32 234
Electric railcars		16 867	19 650	20 679	20 642	20 741

2.2 GROSS TONNE-KM AND AVERAGE TRAIN WEIGHTS (INCLUDING LOCOMOTIVE) BY TYPE OF TRACTION AND CATEGORY OF TRAIN IN 2010

	Passenger traffic							Freight traffic				
	Long-distance trains											
	Pendolino-trains	Allegro-trains	InterCity-trains	Express-trains	Regional trains	Commuter trains in the Helsinki Area	Total or on average	Freight trains	Pick-up freight trains	Total or on average	Light locomotives	Grand total or on average
Gross tonne-km												
1 000 000	**1 850**	**9**	**4 180**	**3 071**	**1 004**	**1 404**	**11 518**	**19 843**	**1 593**	**21 436**	**137**	**33 091**
Diesel locomotives	–	–	23	171	223	–	417	4 349	1 292	5 641	–	6 058
Electric locomotives	–	–	4 157	2 900	462	20	7 539	15 494	301	15 795	–	23 334
Electric railcars	1 850	9	–	–	203	1 384	3 446	–	–	–	–	3 446
Diesel railcars	–	–	–	–	116	–	116	–	–	–	–	116
Light locomotives	–	–	–	–	–	–	–	–	–	–	137	137
Average train weights (including locomotive) tons												
Hauled by locomotives	–	–	414.5	564.0	284.4	357.1	442.1	1 401.1	890.7	1 343.8	–	865.8
Diesel locomotives	–	–	500.0	695.1	238.5	–	340.0	1 246.5	885.9	1 139.6	–	980.9
Electric locomotives	–	–	414.4	557.8	313.4	357.1	449.6	1 451.7	918.3	1 435.8	–	840.2
Hauled by railcars	365.4	450.0	–	–	96.8	159.6	208.9	–	–	–	–	208.9
Electric railcars	365.4	450.0	–	–	114.2	159.6	221.8	–	–	–	–	221.8
Diesel railcars	–	–	–	–	76.4	–	76.4	–	–	–	–	76.4

2.3 GROSS TONS CARRIED ON THE DIFFERENT SECTIONS OF LINE IN 2010

Without SM1-, SM2-, SM4- and SM5- traffic stock

The figures show the gross tons on the different line sections per year (million)

Shunting is not included

2.4 VEHICLE-AXLE-KM BY CATEGORY OF TRAIN AND VEHICLE IN 2010

Train category and type of traction	VR-owned passenger coaches	VR-owned electric railcars	VR-owned diesel locomotives	VR-owned other passenger coaches	Russian passenger coaches	VR-owned covered wagons	VR-owned open wagons	VR-owned other wagons	CIS-wagons	Private owners' wagons	Total
	1 000 000 vehicle-axle-km										
Passenger traffic	465.0	257.1	8.0	15.2	14.9	12.3	0.2	0.4	–	0.2	773.3
Long-distance trains	463.8	152.6	8.0	15.2	14.9	12.3	0.2	0.4	–	0.2	667.6
Pendolino-trains	–	136.9	–	–	–	–	–	–	–	–	136.9
Allegro-trains	–	0.5	–	–	–	–	–	–	–	–	0.5
InterCity-trains	250.5	–	–	0.6	–	–	–	–	–	–	251.1
Diesel locomotives	1.3	–	–	–	–	–	–	–	–	–	1.3
Electric locomotives	249.2	–	–	0.6	–	–	–	–	–	–	249.8
Express-trains	170.3	–	–	14.6	14.4	12.3	–	0.4	–	–	212.0
Diesel locomotives	9.1	–	–	1.7	0.1	0.9	–	–	–	–	11.8
Electric locomotives	161.2	–	–	12.9	14.3	11.4	–	0.4	–	–	200.2
Regional trains	43.0	15.2	8.0	–	0.5	–	0.2	–	–	0.2	67.1
Diesel locomotives	14.3	–	–	–	–	–	0.1	–	–	–	14.4
Electric locomotives	28.7	–	–	–	0.5	–	0.1	–	–	0.2	29.5
Electric railcars	–	15.2	–	–	–	–	–	–	–	–	15.2
Diesel railcars	–	–	8.0	–	–	–	–	–	–	–	8.0
Commuter trains in the Helsinki Area	1.2	104.5	–	–	–	–	–	–	–	–	105.7
Electric locomotives	1.2	–	–	–	–	–	–	–	–	–	1.2
Electric railcars	–	104.5	–	–	–	–	–	–	–	–	104.5
Freight traffic	35.4	–	–	–	–	328.7	537.8	162.9	351.8	9.9	1 426.5
Freight traffic trains	31.5	–	–	–	–	289.0	487.4	158.5	333.6	9.6	1 309.6
Diesel locomotives	6.8	–	–	–	–	61.6	152.7	32.5	32.9	3.5	290.0
Electric locomotives	24.7	–	–	–	–	227.4	334.7	126.0	300.7	6.1	1019.6
Pick-up freight trains	3.9	–	–	–	–	39.7	50.4	4.4	18.2	0.3	116.9
Diesel locomotives	2.9	–	–	–	–	27.1	44.9	3.2	15.9	0.3	94.3
Electric locomotives	1.0	–	–	–	–	12.6	5.5	1.2	2.3	–	22.6
Total	500.4	257.1	8.0	15.2	14.9	341.0	538.0	163.3	351.8	10.1	2 199.8
Diesel locomotives	34.4	–	–	1.7	0.1	89.6	197.7	35.7	48.8	3.8	411.8
Electric locomotives	466.0	–	–	13.5	14.8	251.4	340.3	127.6	303.0	6.3	1 522.9
Electric railcars	–	257.1	–	–	–	–	–	–	–	–	257.1
Diesel railcars	–	–	8.0	–	–	–	–	–	–	–	8.0
Grand total	500.4	257.1	8.0	15.2	14.9	341.0	538.0	163.3	351.8	10.1	2 199.8

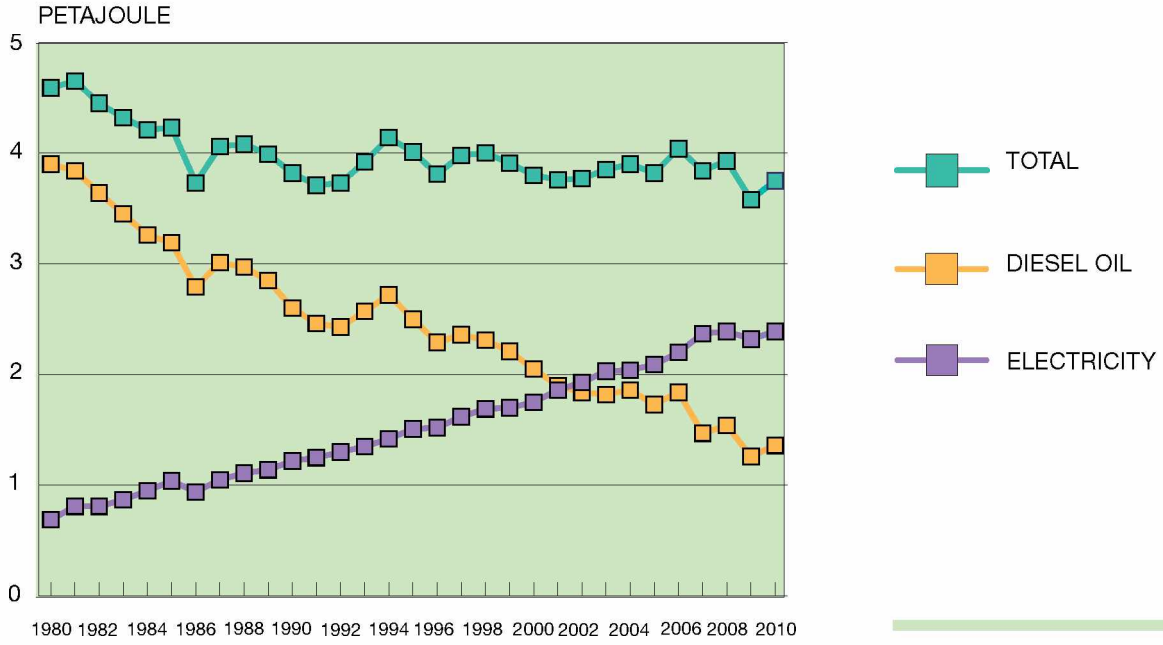
2.5 ENERGY CONSUMPTION IN TRAIN TRAFFIC IN 1980 - 2010

Energy consumption

Year	Electricity		Diesel oil		Total
	million kWh	petajoule [1]	million l	petajoule [1]	petajoule [1]
1980	191	0.69	108.6	3.90	4.59
1981	224	0.81	107.0	3.84	4.65
1982	225	0.81	101.4	3.64	4.45
1983	242	0.87	96.2	3.45	4.32
1984	265	0.95	90.9	3.26	4.21
1985	290	1.04	88.9	3.19	4.23
1986	260	0.94	77.8	2.79	3.73
1987	291	1.05	83.9	3.01	4.06
1988	308	1.11	82.6	2.97	4.08
1989	316	1.14	79.4	2.85	3.99
1990	340	1.22	72.3	2.60	3.82
1991	346	1.25	68.4	2.46	3.71
1992	361	1.30	67.7	2.43	3.73
1993	374	1.35	71.6	2.57	3.92
1994	395	1.42	75.7	2.72	4.14
1995	419	1.51	69.6	2.50	4.01
1996	422	1.52	63.8	2.29	3.81
1997	450	1.62	65.8	2.36	3.98
1998	470	1.69	64.3	2.31	4.00
1999	471	1.70	61.5	2.21	3.91
2000	486	1.75	57.0	2.05	3.80
2001	516	1.86	52.8	1.90	3.76
2002	537	1.93	51.2	1.84	3.77
2003	563	2.03	50.5	1.82	3.85
2004	566	2.04	51.7	1.86	3.90
2005	581	2.09	48.0	1.73	3.82
2006	610	2.20	51.2	1.84	4.04
2007	659	2.37	41.0	1.47	3.84
2008	664	2.39	42.8	1.54	3.93
2009	645	2.32	35.1	1.26	3.58
2010	665	2.39	37.8	1.36	3.75

[1] Petajoule = 10^{15} joules

ENERGY CONSUMPTION IN TRAIN TRAFFIC



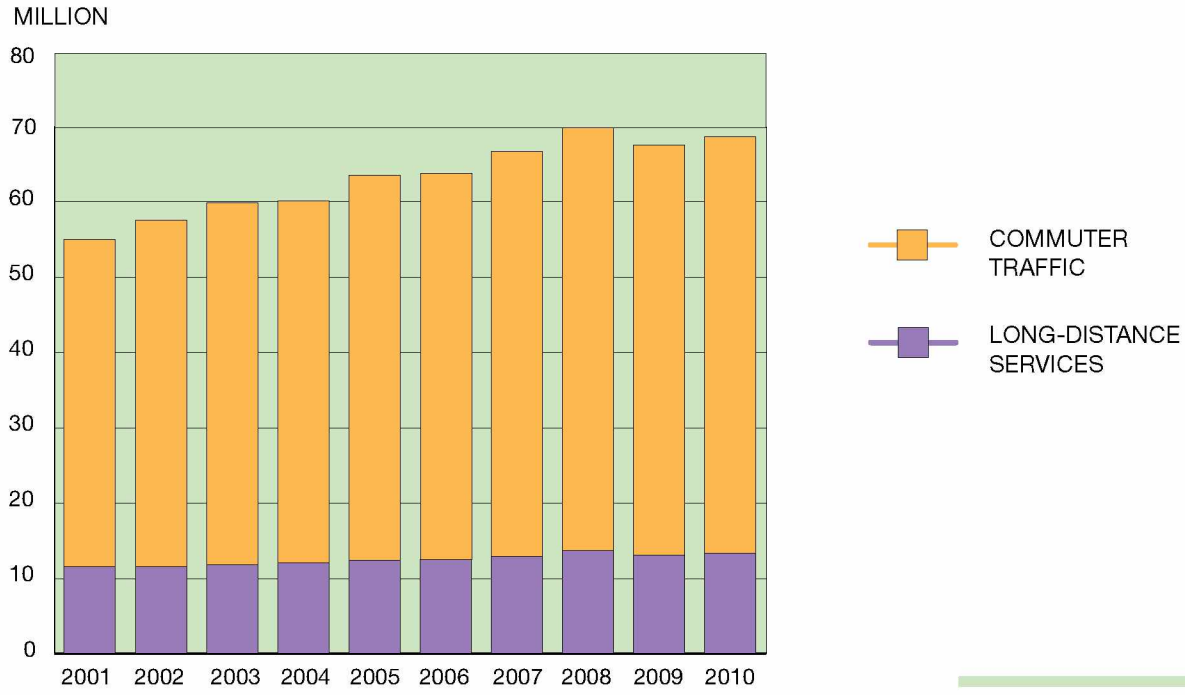
3 VR'S PASSENGER TRAFFIC

3.1 PASSENGER TRAFFIC BY CATEGORY OF TRAFFIC IN 2001 - 2010

Commercial traffic		2001	2002	2003
Number of journeys	1 000			
Long-distance services		11 561	11 643	11 915
	%	21.0	20.2	19.9
Commuter traffic in the Helsinki Area		43 426	46 052	47 994
	%	79.0	79.8	80.1
	Total	54 987	57 695	59 909
Passenger-km	1 000 000			
Long-distance services		2 596	2 636	2 642
	%	79.1	79.4	79.1
Commuter traffic in the Helsinki Area		686	682	696
	%	20.9	20.6	20.9
	Total	3 282	3 318	3 338
Average length of journeys	km	59.7	57.5	55.7

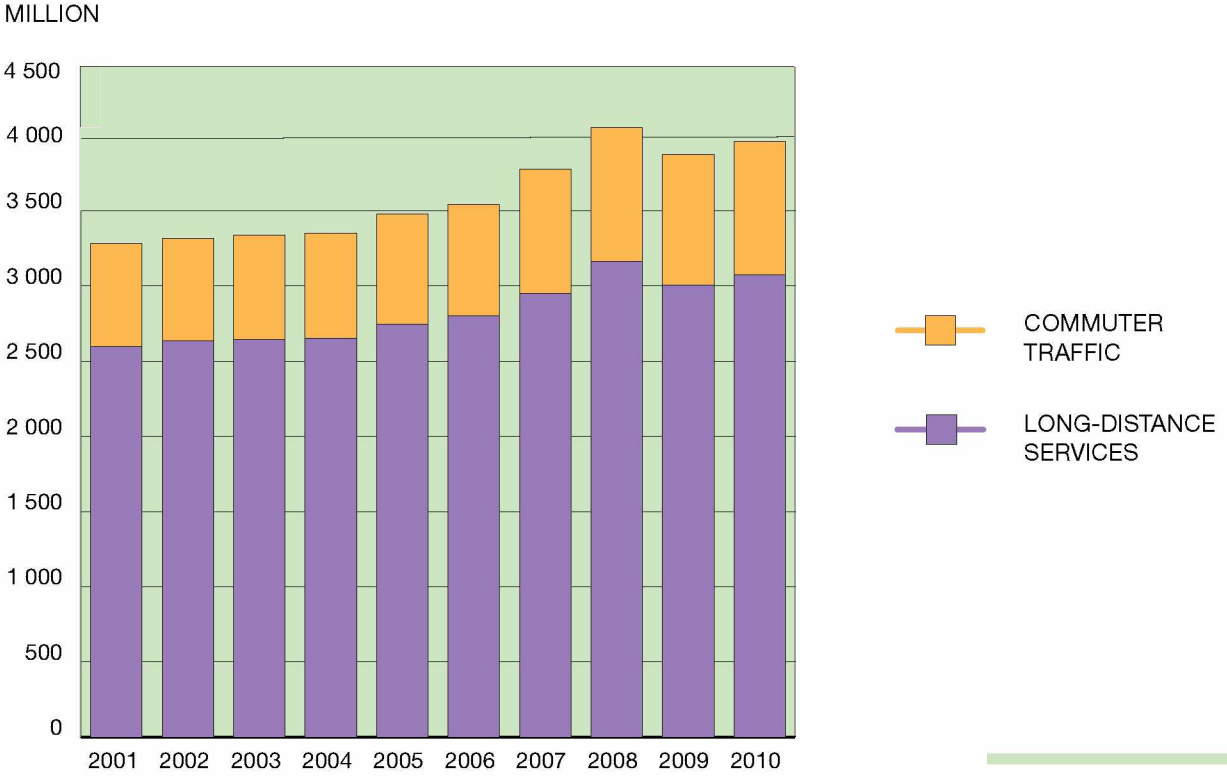
[1] Due to a change in statistical methods, the 2006–2010 figures for the number of journeys and passenger-kilometres by rail are not fully comparable with earlier figures.

NUMBER OF JOURNEYS IN PASSENGER TRAFFIC IN 2001 - 2010 [1]

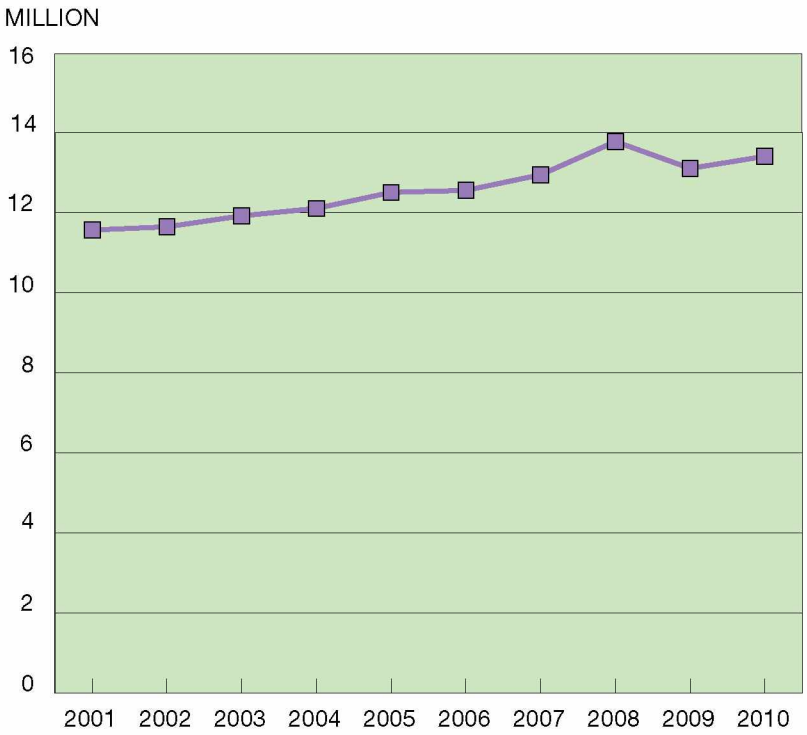


2004	2005	2006 [1]	2007	2008	2009	2010
12 129	12 503	12 554	12 944	13 767	13 116	13 399
20.2	19.7	19.7	19.4	19.7	19.4	19.4
48 005	50 990	51 248	53 741	56 170	54 439	55 551
79.8	80.3	80.3	80.6	80.3	80.6	80.6
60 134	63 493	63 803	66 685	69 937	67 555	68 950
2 654	2 744	2 801	2 951	3 164	3 006	3 073
79.2	78.9	79.1	78.1	78.1	77.6	77.6
698	734	740	827	888	870	886
20.8	21.1	20.9	21.9	21.9	22.4	22.4
3 352	3 478	3 540	3 778	4 052	3 876	3 959
55.7	54.8	55.5	56.7	57.9	57.4	57.4

PASSENGER-KILOMETRES IN PASSENGER TRAFFIC IN 2001 - 2010 [1]

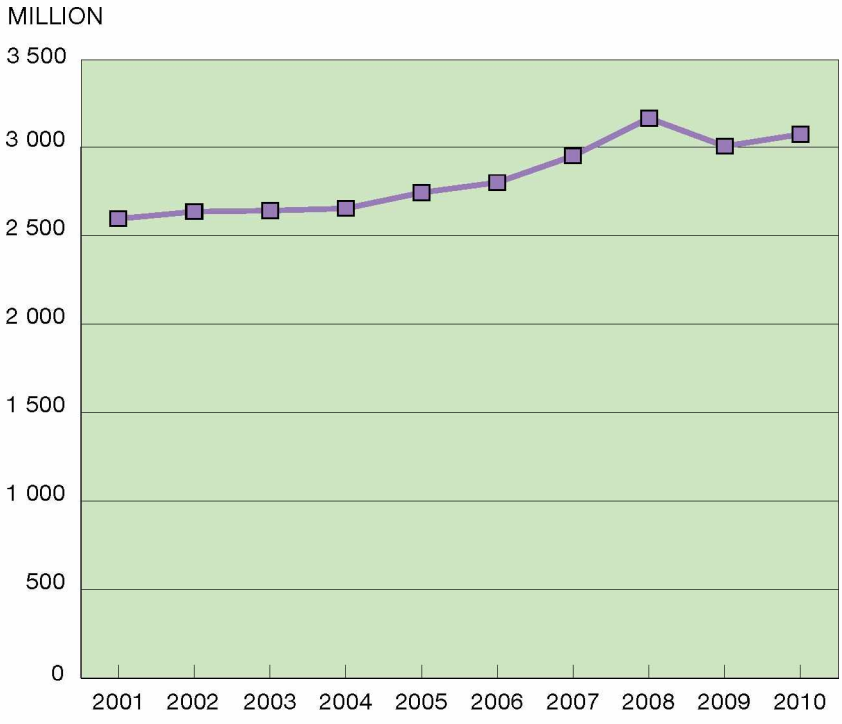


NUMBER OF JOURNEYS IN LONG-DISTANCE TRAFFIC IN 2001 - 2010 [1)]



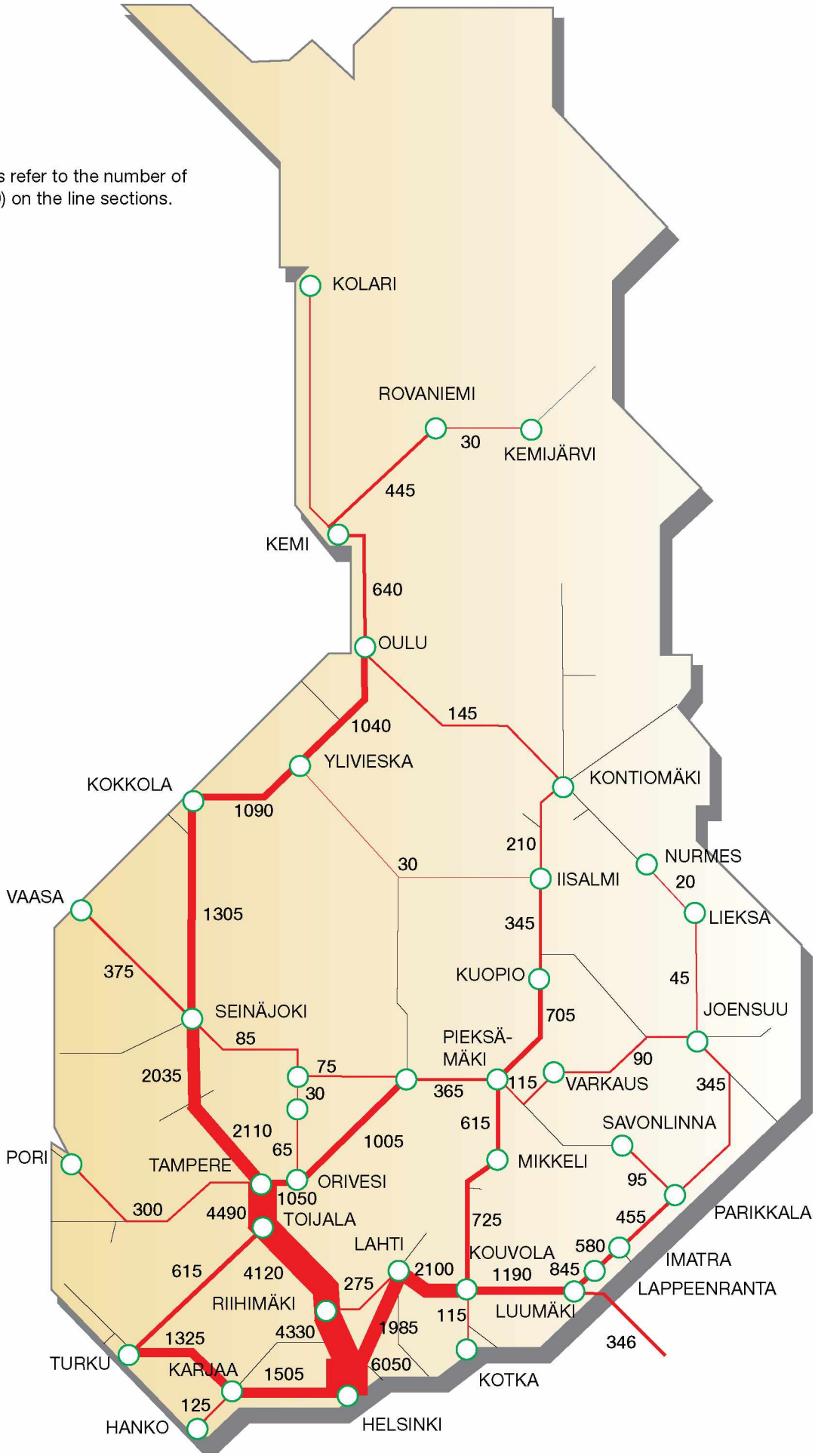
[1)] Due to a change in statistical methods, the 2006–2010 figures for the number of journeys and passenger-kilometres by rail are not fully comparable with earlier figures.

PASSENGER-KILOMETRES IN LONG-DISTANCE TRAFFIC IN 2001 - 2010 [1)]



3.2 PASSENGER FLOWS IN LONG-DISTANCE TRAFFIC IN 2010

The figures refer to the number of trips (1000) on the line sections.



4 VR'S FREIGHT TRAFFIC

4.1 FREIGHT TRAFFIC IN 2001 - 2010

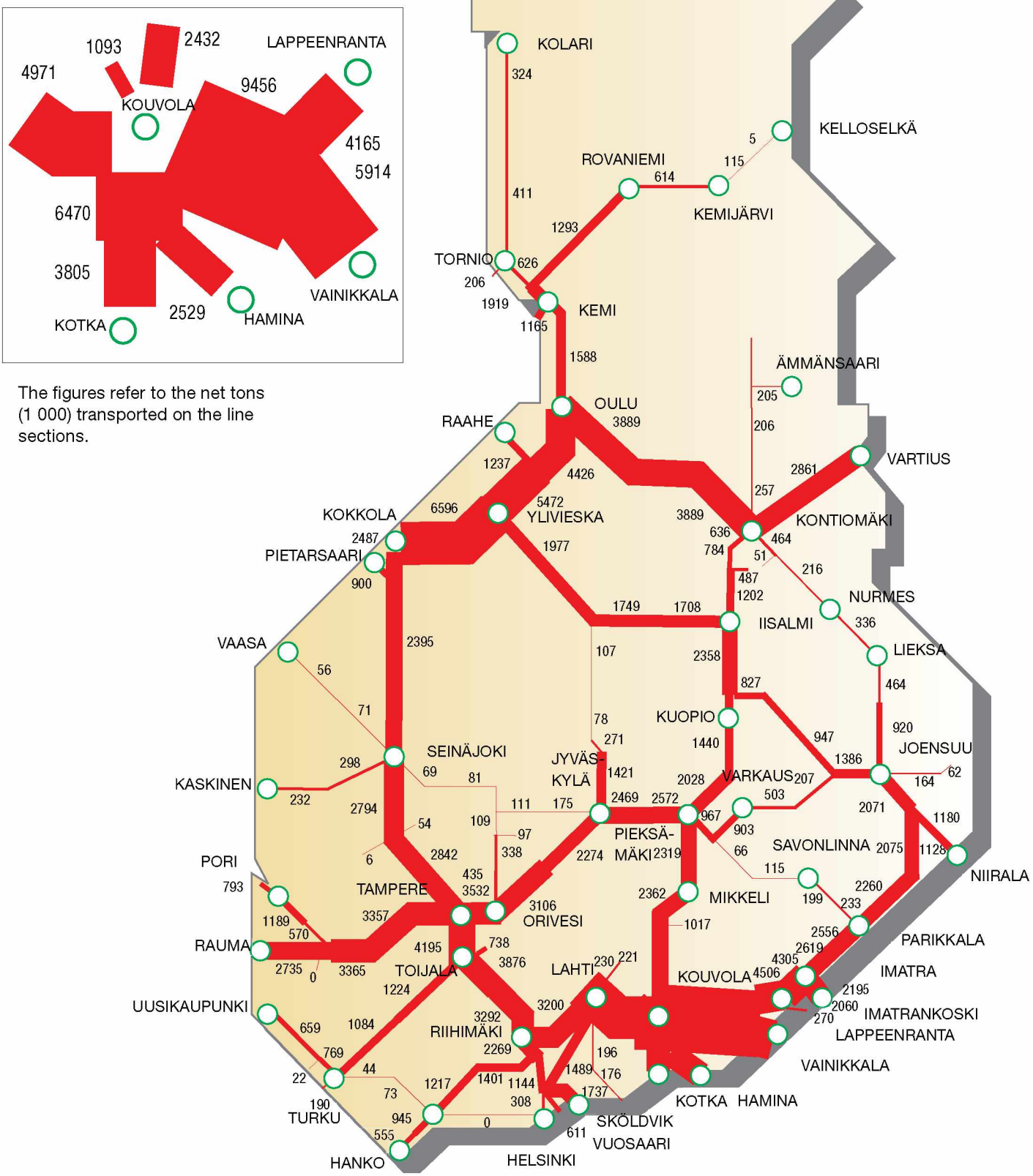
Commercial traffic		2001	2002	2003
Wagonload freight				
Weight of freight	1 000 t	41 678	41 679	43 503
Domestic traffic	1 000 t	23 993	24 695	24 980
International traffic	1 000 t	17 685	16 984	18 523
Tonne-km	1 000 000	9 857	9 664	10 047
Domestic traffic	1 000 000	6 588	6 695	6 760
International traffic	1 000 000	3 269	2 969	3 287
Average length of transport	km	236	232	231
Ratios				
Tonne-km, commercial freight				
Per length of line	1 000	1 685.0	1 651.9	1 717.2
Per train kilometre of freight trains		586.5	578.2	598.6
Per wagon-axle-km		6.4	6.4	6.3

TONNES CARRIED IN WAGONLOAD TRAFFIC IN 2001 - 2010

2004	2005	2006	2007	2008	2009	2010
42 663	40 722	43 560	40 288	41 937	32 860	35 795
26 255	23 479	25 959	26 204	25 484	21 360	23 2490
16 408	17 243	17 601	14 084	16 453	11 500	12 545
10 105	9 706	11 060	10 434	10 777	8 872	9 750
7 197	6 607	7 375	7 581	7 588	6 141	6 915
2 908	3 099	3 685	2 853	3 189	2 731	2 835
237	238	254	259	257	270	273
1 760.2	1 693.3	1 873.0	1 768.8	1 820.7	1 499.0	1 647.2
583.3	577.1	603.0	580.4	592.8	595.5	611.2
6.3	6.4	6.6	6.6	6.7	6.8	6.9

TONNE-KM IN WAGONLOAD TRAFFIC IN 2001 - 2010

4.2 FREIGHT FLOWS IN 2010

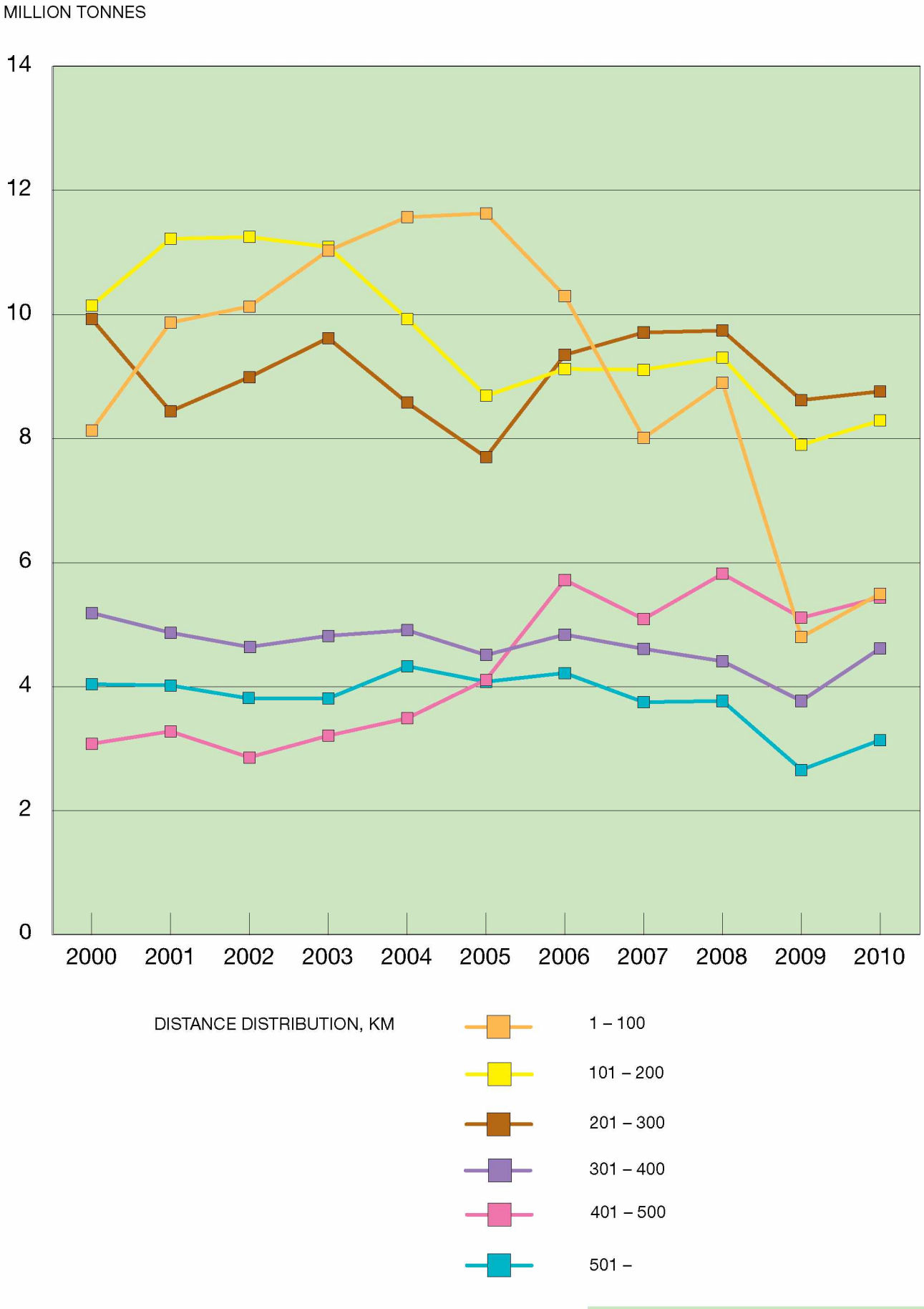


4.3 WAGON-LOADS CARRIED AND TONNE-KILOMETRES PER FREIGHT CATEGORY, 2000 - 2010

Million tonnes	2000	2005	2006	2007	2008	2009	2010
Total	**40.5**	**40.7**	**43.6**	**40.3**	**41.9**	**32.9**	**35.8**
Plant and animal products	0.4	0.3	0.2	0.2	0.1	0.1	0.1
Mineral products	7.6	6.2	7.6	6.5	7.7	7.0	7.6
Wood and wood products	15.7	17.5	18.0	16.3	16.3	12.0	13.5
Products of paper industry	7.9	7.9	9.2	9.2	9.0	7.0	7.2
Products of metal industry	3.8	3.3	3.3	2.9	2.8	2.0	2.3
Machines and equipment	0.6	0.9	0.8	0.7	0.7	0.6	0.5
Products of chemical industry	4.3	4.3	4.2	4.3	5.0	4.0	4.5
Miscellaneous products	0.2	0.3	0.3	0.2	0.2	0.2	0.1

Million tonne-kilometres	2000	2005	2006	2007	2008	2009	2010
Total	**10 107**	**9 706**	**11 060**	**10 434**	**10 777**	**8 872**	**9 750**
Plant and animal products	124	86	73	62	43	36	23
Mineral products	1 825	1 693	2 351	1 870	2 288	2 168	2 342
Wood and wood products	3 091	2 975	3 201	3 286	3 333	2 830	3 169
Products of paper industry	2 020	2 006	2 401	2 406	2 311	1 680	1 801
Products of metal industry	1 494	1 279	1 325	1 107	1 045	710	857
Machines and equipment	299	377	410	395	385	335	282
Products of chemical industry	1 165	1 184	1 201	1 220	1 285	1 043	1 226
Miscellaneous products	89	106	97	88	87	70	51

4.4 WEIGHT OF FREIGHT CARRIED IN COMMERCIAL WAGON-LOAD TRAFFIC IN 2000 - 2010, BY DISTANCE



4.5 TRAFFIC BETWEEN VR AND FOREIGN RAILWAYS IN 2010

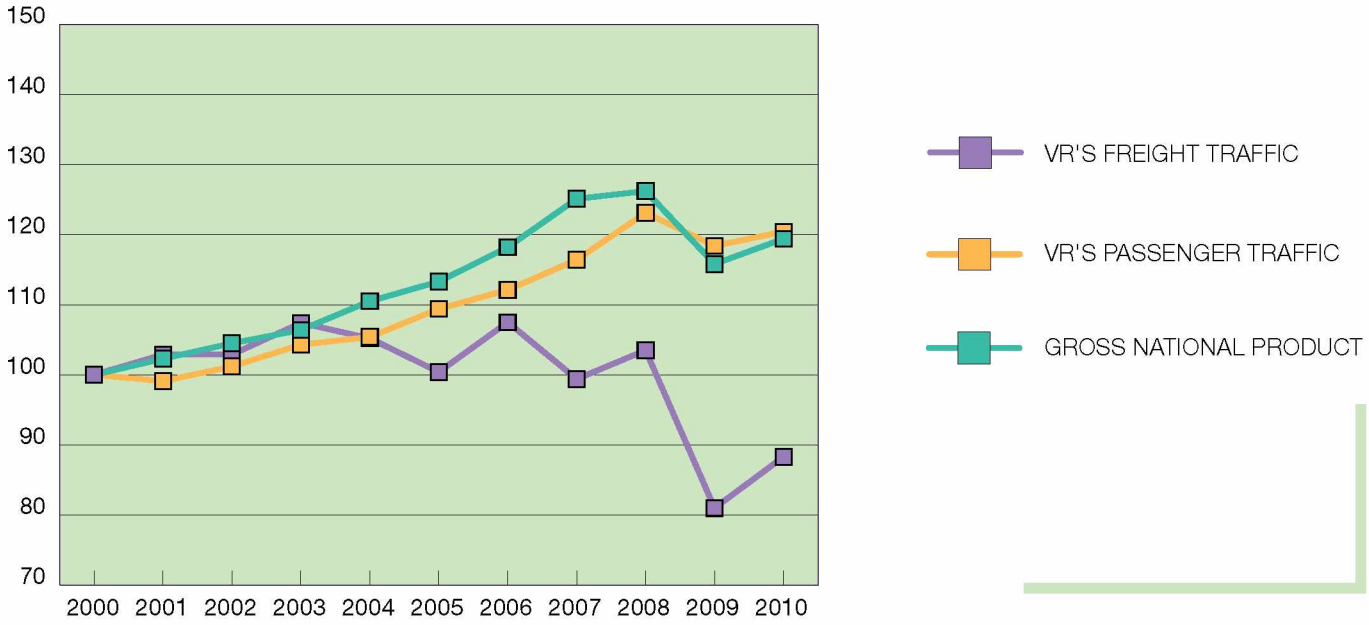
	Wagons									Passenger coaches		
	Finnish wagons			Foreign wagons			Total			Finnish	Foreign	Total
	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Grand total			
	Number of vehicles											
Despatched from Finland	**308**	**–**	**308**	**25 606**	**205 004**	**230 610**	**25 914**	**205 004**	**230 918**	**3 165**	**6 960**	**10 125**
Eastern traffic												
Vainikkala	–	–	–	17 761	99 680	117 441	17 761	99 680	117 441	3 165	6 960	10 125
Imatran-koski	–	–	–	56	41 755	41 811	56	41 755	41 811	–	–	–
Niirala	–	–	–	2 035	21 341	23 376	2 035	21 341	23 376	–	–	–
Vartius	–	–	–	3 434	40 746	44 180	3 434	40 746	44 180	–	–	–
Total	–	–	–	**23 286**	**203 522**	**226 808**	**23 286**	**203 522**	**226 808**	**3 165**	**6 960**	**10 125**
Western traffic												
Tornio	308	–	308	2 320	1 482	3 802	2 628	1 482	4 110	–	–	–
Arrived in Finland	**–**	**308**	**308**	**210 260**	**20 315**	**230 575**	**210 260**	**20 623**	**230 883**	**3 165**	**6 960**	**10 125**
Eastern traffic												
Vainikkala	–	–	–	105 188	11 711	116 899	105 188	11 711	116 899	3 165	6 960	10 125
Imatran-koski	–	–	–	41 297	776	42 073	41 297	776	42 073	–	–	–
Niirala	–	–	–	22 296	1 849	24 145	22 296	1 849	24 145	–	–	–
Vartius	–	–	–	39 997	3 659	43 656	39 997	3 659	43 656	–	–	–
Total	–	–	–	**208 778**	**17 995**	**226 773**	**208 778**	**17 995**	**226 773**	**3 165**	**6 960**	**10 125**
Western traffic												
Tornio	–	308	308	1 482	2 320	3 802	1 482	2 628	4 110	–	–	–
Number of vehicles carried in traffic between VR and foreign railways	**308**	**308**	**616**	**235 866**	**225 319**	**461 185**	**236 174**	**225 627**	**461 801**	**6 330**	**13 920**	**20 250**

5 VOLUME OF RAILWAY TRAFFIC

TRAFFIC VOLUME INDEX IN 2000 - 2010

2000 = 100	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Passenger traffic	100	99	101	104	105	109	112	116	123	118	120
Freight traffic	100	103	103	107	105	101	108	100	104	81	88
Total railway traffic	100	101	102	106	105	104	109	107	112	100	104

VOLUME INDEX (2000 = 100)



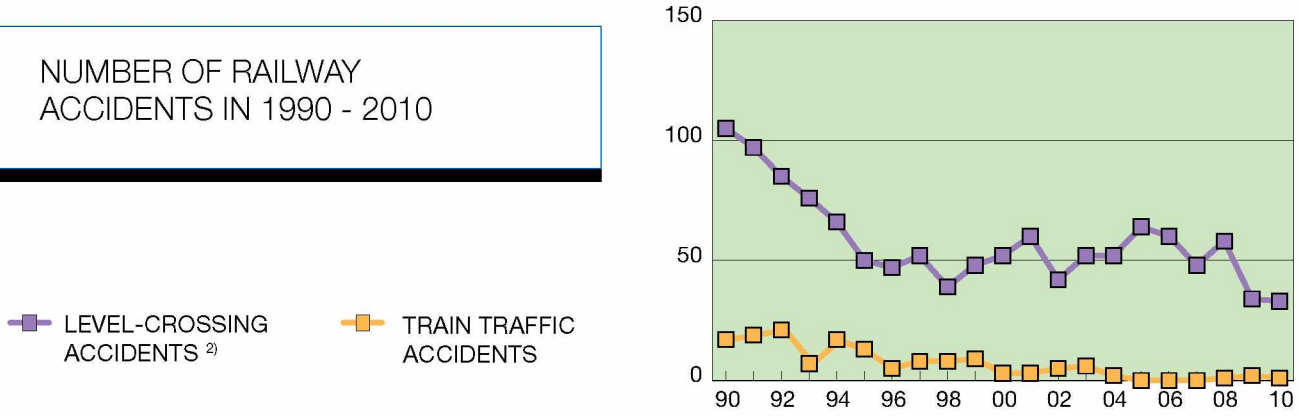
6 RAILWAY ACCIDENTS

6.1 SIGNIFICANT RAILWAY ACCIDENTS IN 2010 [1)]

Type of accident	Number of accidents	Number of persons killed or seriously injured		
	Total	Killed	Seriously injured	Total
Collisions	0	0	0	0
Derailments	1	0	0	0
Accidents involving level crossings	9	8	3	11
Accidents to persons caused by rolling stock in motion	10	5	5	10
Fire in rolling stock in motion	0	0	0	0
Other accidents	3	0	0	0
Total	**23**	**13**	**8**	**21**

[1)] An accident involving rolling stock resulting in a fatality or a serious injury or the damage caused to rolling stock, tracks, track equipment or the environment has amounted to at least €150 000. Also accidents which have caused a rail service disruption on a main rail line of at least six hours.

6.2 NUMBER OF RAILWAY ACCIDENTS IN 1990 - 2010



6.3 RATIOS RELATING TO RAILWAY ACCIDENTS IN 2006 - 2010

	2006	2007	2008	2009	2010
Total of persons killed or seriously injured Per one million train-km	0.70	0.40	0.51	0.48	0.41
Total of railway accidents [3)] Per one million train-km	2.02	1.10	1.43	0.52	0.45
Passengers					
Killed per one million journeys	0.02	–	–	–	–
Seriously injured per one million journeys	0.02	–	–	–	–

[2)] Also other than significant level crossing accidents.

[3)] From 2009 only significant accidents.

7 HISTORICAL SURVEY

Year	Length of line on 31.12. [1]	Track length on 31.12. [1]	VR-owned rolling stock on 31.12.									Annual mean strength of VR's staff		VR's passenger traffic		VR's freight traffic	
			Tractive stock							Passenger stock	Freight stock						
			Steam locomotives	Diesel locomotives	Diesel railcars and railbuses	Electric railcars	Electric locomotives	Light rail motor tractors	Total			Primary occupation	Secondary occupation	Number of journeys [2]	Passenger-kilometres [2]	Weight, 1 000 tonnes [3]	Tonne-km [3]
	km													1 000			1 000
1862	108	..	6	–	–	–	–	–	6	13	142	..	..	39	..	13	..
1870	483	531	43	–	–	–	–	–	43	110	993	..	..	2 404	18 028	132	7 925
1880	852	1 005	98	–	–	–	–	–	98	231	2 176	1 594	..	1 813	65 870	506	49 480
1890	1 876	2 179	151	–	–	–	–	–	151	370	3 594	2 612	..	2 542	126 076	954	104 052
1900	2 650	3 304	310	–	–	–	–	–	310	755	8 547	[4] 10 282	..	6 899	337 173	2 463	343 370
1910	3 356	4 568	500	–	–	–	–	–	500	1 114	14 149	15 179	..	14 463	554 928	3 860	462 005
1920	3 987	5 567	539	–	–	–	–	–	539	958	13 016	24 105	..	17 549	775 488	5 439	931 679
1930	5 010	6 983	773	–	3	–	–	–	776	1 364	22 012	29 165	..	22 033	1 035 028	9 574	1 592 327
1935	5 367	7 497	740	1	13	–	–	–	754	1 428	23 348	28 845	..	20 052	947 038	12 334	1 979 598
1938	[5] 5 407	7 858	747	2	20	–	–	–	769	1 469	24 513	31 212	..	23 714	1 227 670	13 731	2 263 070
1945	4 668	6 715	741	4	22	–	–	–	767	1 471	23 261	38 547	..	61 344	3 202 595	[6] 11 489	[6] 2 459 817
1950	4 798	7 022	821	4	20	–	–	–	845	1 648	27 655	38 423	..	45 656	2 182 570	15 803	3 445 637
1955	4 889	7 453	798	18	80	–	–	..	896	1 617	26 169	36 073	..	39 444	2 260 463	19 158	4 482 223
1960	[7] 5 314	[7] 8 166	[7] 659	[7] 120	[7] 192	–	–	..	[7] 971	[7] 1 495	[7] 26 543	35 340	550	36 603	2 342 928	[8] 19 041	4 865 000
1965	5 458	9 560	514	306	261	–	–	184	1 265	1 380	26 887	34 903	558	31 171	2 049 624	20 556	5 182 900
1970	5 804	8 795	262	331	272	20	–	278	1 163	1 080	25 045	27 690	410	23 357	2 156 236	23 620	6 270 300
1975	5 918	8 938	250	369	223	60	27	259	1 188	1 055	24 862	29 002	277	35 546	3 135 164	22 657	[9] 6 438 200
1980	6 075	9 157	–	395	182	96	84	263	1 020	1 102	23 848	28 726	297	39 310	3 215 652	29 574	8 335 400
1985	5 877	8 923	–	384	104	100	110	238	936	1 109	17 796	26 310	165	40 419	3 223 988	30 781	8 067 100
1986	5 878	8 936	–	383	86	100	110	244	923	1 094	17 862	25 484	137	34 763	2 675 570	27 783	6 952 200
1987	5 863	8 921	–	382	60	100	110	234	886	1 035	16 798	24 695	111	45 759	3 061 600	30 108	7 403 400
1988	5 863	8 921	–	382	10	100	110	234	834	991	16 292	23 273	86	46 226	3 147 000	33 006	7 815 900
1989	5 863	8 933	–	364	8	100	110	240	822	994	15 663	21 761	65	45 536	3 207 900	33 639	7 958 400
1990	5 846	8 844	–	358	–	100	110	236	804	1 001	15 395	20 162	45	45 998	3 330 900	34 562	8 356 700
1991	5 853	8 676	–	368	–	100	110	232	810	1 019	15 470	19 569	–	45 795	3 229 000	31 065	7 634 200
1992	5 853	8 836	–	356	–	100	110	223	789	1 027	15 286	18 945	–	45 101	3 057 200	32 587	7 847 800
1993	5 864	8 991	–	350	–	100	111	227	788	1 003	14 691	18 277	–	44 362	3 006 500	37 869	9 259 100
1994	5 859	8 915	–	350	–	100	111	223	784	1 002	14 656	17 368	–	43 989	3 036 800	40 150	9 949 400
1995	5 859	8 977	–	346	–	100	111	217	774	992	14 618	[10] 15 228	–	44 420	3 184 400	[11] 39 387	[11] 9 292 900
1996	5 859	8 940	–	338	–	100	113	215	766	982	14 344	14 820	–	47 000	3 254 000	37 717	8 805 500
1997	5 865	8 730	–	334	–	102	124	215	775	994	13 320	14 346	–	49 980	3 376 000	40 321	9 856 400
1998	5 867	8 725	–	314	–	102	129	216	761	1 003	12 737	13 945	–	51 370	3 377 000	40 740	9 885 000
1999	5 836	8 680	–	312	–	102	130	216	760	1 029	12 647	13 453	–	53 209	3 415 000	39 979	9 752 500
2000	5 854	8 705	–	299	–	112	130	212	753	1 047	12 292	12 722	–	54 783	3 405 000	40 501	10 106 600
2001	5 850	8 734	–	285	–	112	140	205	742	1 056	11 933	12 225	–	54 987	3 282 000	41 678	9 857 300
2002	5 850	8 736	–	279	–	119	148	202	748	1 077	11 528	11 711	–	57 695	3 318 000	41 679	9 663 800
2003	5 851	8 707	–	273	–	119	156	201	749	1 060	11 324	11 115	–	59 969	3 338 000	43 503	10 047 100
2004	5 741	8 596	–	258	–	129	156	217	760	1 029	11 445	10 748	–	60 134	3 352 000	42 663	10 105 200
2005	5 732	8 587	–	257	10	147	156	132	702	1 084	11 162	10 305	–	63 493	3 478 000	40 722	9 705 800
2006	5 905	8 830	–	249	16	147	156	129	697	1 083	10 971	10 180	–	63 803	3 540 000	43 560	11 059 600
2007	5 899	8 816	–	245	16	148	156	129	694	1 024	10 790	9 988	–	66 685	3 778 000	40 288	10 434 100
2008	5 919	8 848	–	235	16	148	156	107	662	1 035	10 934	9 992	–	69 937	4 052 000	41 937	10 776 500
2009	5 919	8 847	–	224	16	149	156	96	641	1 033	10 524	9 935	–	67 555	3 876 000	32 860	8 872 300
2010	5 919	8 862	–	224	16	152	156	96	644	1 071	10 464	[12] 9 619	–	68 950	3 959 000	35 795	9 749 600

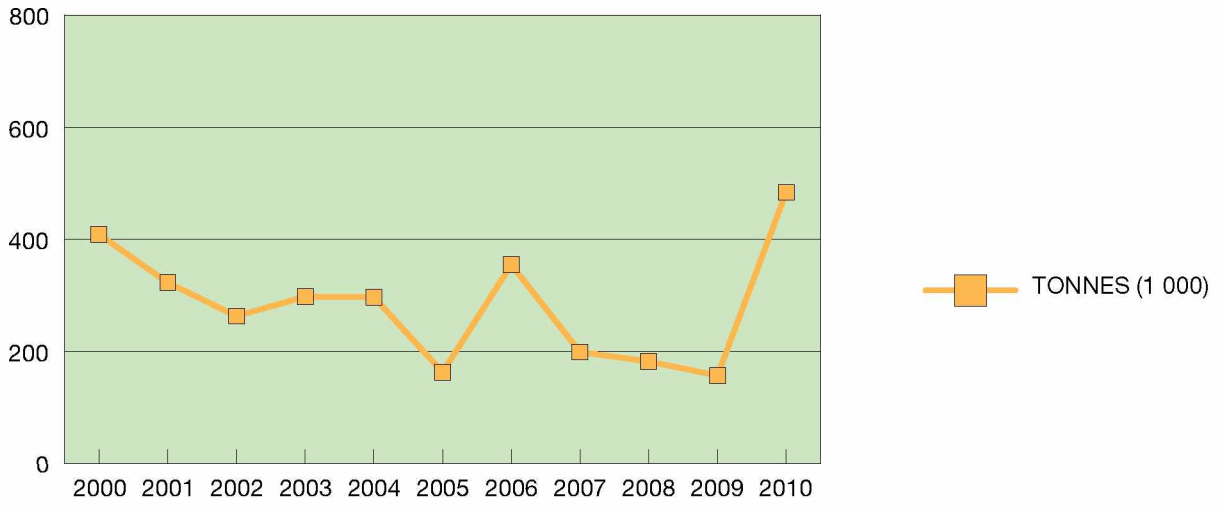
[1] Lines owned by the Finnish Rail Administration from 1995 and by the Finnish Transport Agency from 2010.
[2] Excluding free tickets and road traffic.
[3] Excluding parcels and transport of the railway's own freight. Live animals and means of transport included in the ton-kilometres only since 1921.
[4] Since 1900 including contractual staff.
[5] Since 1938 private sidings no longer included in the length of line.
[6] Since 1945 including express goods.
[7] Data on narrow-gauge lines not included.
[8] Since 1960 including local traffic proper.
[9] Since 1971 including local traffic proper.
[10] Since 1995 the staff of VR-Group Ltd, VR Ltd and VR-Track Ltd.
[11] Since 1995 train traffic only.
[12] Since 2010 the staff of VR-Group Ltd and VR-Track companies.

8 PRIVATE RAILWAYS

PRIVATE RAILWAYS AND THEIR ACTIVITY IN 2006 - 2010

Karhulan-Sunilan Rautatie Oy		2006	2007	2008	2009	2010
Opened for traffic on 3.5.1900						
Rail gauge	1.524 m					
Track length at end of year	km	10.2	10.2	10.2	10.2	10.2
Main tracks	km	6.1	6.1	6.1	6.1	6.1
Sidings	km	4.1	4.1	4.1	4.1	4.1
Length of line operated at end of year	km	6.1	6.1	6.1	6.1	6.1
Railway operating points at end of year		1	1	1	1	1
Rolling stock at end of year						
Motor locomotives		3	2	2	2	2
Staff at end of year		5	4	4	4	5
Number of trains						
Yearly		1 414	1 154	1 136	1 022	1 022
Daily		4.4	4.4	4.4	4.1	5.0
Train-km		8 484	6 924	6 816	6 132	10 068
Freight carried						
1 000 tonnes		355	199	182	157	484
1 000 tonne-km		2 130	1 195	1 092	942	2 904

FREIGHT CARRIED IN 2000 - 2010



9 DATA ON VARIOUS COUNTRIES AND THEIR RAILWAYS IN 2009

Countries

		Finland	Sweden	Norway	Denmark	Spain	France	Austria	Germany
Population	million	5.3	9.3	4.8	5.5	45.8	62.5	8.4	82.0
Area	1 000 km²	339	450	324	43	507	552	84	357
Gross domestic product (2005=100) [1]	USD	102.1	101.4	104.4	98.4	104.6	102.1	105.5	102.1

Railways / Countries

		VR, FTA	SJ, Trafikverket, Green Gargo	NSB, JBV	DSB, BDK	RENFE, FEVE, FGC, EUSKOTREN, ADIF, ETS	SNCF, RFF, VEOLIA	ÖBB	DB AG
Staff	1 000	10.1	13.3	6.0	10.9	32.1	159.1	46.0	239.9
Length of line	km	5 919	9 946	4 114	2 131	15 043	29 903	5 265	33 714
		VR	SJ	NSB	DSB	RENFE	SNCF	ÖBB	DB AG
Train traffic Train-km	million	50.0	50.6	28.1	70.3	179.9	482.3	148.7	870.0
Passenger traffic Number of journeys	million	67.6	36.3	50.3	193.9	466.7	1 078.0	205.8	1 883.3
Passenger-km	million	3 876	7 038	2 676	7 315	22 959	85 697	10 085	75 579
		FINLAND	SWEDEN	NORWAY	DENMARK	RENFE	SNCF	ÖBB	DB AG
Freight traffic [2] Volumes of transport Ton	million	32.9	66.7 [3]	25.0 [3]	7.2 [3]	19.9	69.4	109.7	228.9
Tonne-km	million	8.9	23.1 [3]	3.6 [3]	1.9 [3]	7.3	26.5	21.1	72.3

[1] Volume index at constant prices, seasonally adjusted. Source: Statistics Finland.

[2] Commercial traffic.

[3] Year 2008.

10 RESUME SUR LES CHEMINS DE FER DE FINLANDE

FTA & VR

RAPPORT ANNUEL A L'UNION INTERNATIONALE DES CHEMINS DE FER (UIC)

		2010	2009
TABLEAU 11 – LIGNES [1]			
Trafic ferroviaire			
Ecartement des rails: 1,524 m			
Longueur des lignes à la fin de l'année			
Lignes non électrifiées			
total	km	2 847	2 852
à simple voie	"	2 847	2 852
Lignes électrifiées [2]			
total	"	3 073	3 067
à double voie et plus	"	570	570
Total	"	5 919	5 919
Lignes exploitées			
en trafic voyageurs seulement	"	–	–
en trafic marchandises seulement	"	1 738	1 757
Transports routiers			
Longueur exploitée des lignes à la fin de l'année			
à marchandises	km	–	–
TABLEAU 21 – MATERIEL MOTEUR			
Effectifs à la fin de l'année			
Locomotives diesel			
Nombre total		320	320
dont supérieures à 1 500 kW		18	18
Locomotives électriques			
Nombre total		156	156
dont supérieures à 3 000 kW		156	156
Automotrices diesel			
Isolées			
Nombre total		16	16
Rames indéformables			
Nombre		–	–
Nombre total des véhicules		–	–
Automotrices électriques			
Rames indéformables			
Nombre		152	149
Nombre total des véhicules		402	374
TABLEAU 22 – MATERIEL DE TRANSPORT DE VOYAGEURS			
Effectifs à la fin de l'année			
Véhicules des réseaux pour but commercial			
Effectifs			
Voitures		653	643
Automotrices et remorques d'automotrices		418	390
Effectif total		1 071	1 033
dont voitures climatisées		389	350
dont voitures-restaurants		49	49
dont voitures-couchettes		–	–
dont voitures-lits		107	92
Nombre de places			
Assises			
1ère classe		2 572	2 404
2ème classe		64 447	63 682
Couchettes, 2ème classe		–	–
Voitures-lits, 1ère + 2ème classe (nombre maximal)		3 884	3 314
Assises et couchées total		70 903	69 400
Fourgons			
Effectif total		42	42

[1] Propriétaire Finnish Transport Agency.

[2] Lignes alimentées en courant alternatif 25 000 volts 50 périodes, sous caténaire.

10 SUMMARY RELATING TO THE RAILWAYS OF FINLAND

FTA & VR

ANNUAL REPORT TO THE INTERNATIONAL UNION OF RAILWAYS (UIC)

		2010	2009
TABLE 11 – LINES [1]			
Rail Traffic			
Rail gauge: 1.524 m			
Length of lines at the end of the year			
Lines not electrified			
Total	km	2 847	2 852
Single track	"	2 847	2 852
Electrified lines [2]			
Total	"	3 073	3 067
Double and more than double track	"	570	570
Total	"	5 919	5 919
Lines used			
for passenger traffic only	"	–	–
for freight traffic only	"	1 738	1 757
Road traffic			
Length of lines worked at the end of the year			
Freight	km	–	–
TABLE 21 – TRACTIVE STOCK			
Fleet strength at the end of the year			
Diesel locomotives			
Total number		320	320
Above 1 500 kW		18	18
Electric locomotives			
Total number		156	156
Above 3 000 kW		156	156
Diesel railcars			
Single units			
Total number		16	16
Permanently-coupled trainsets			
Number		–	–
Total number of vehicles		–	–
Electric railcars			
Indivisible trainsets			
Number		152	149
Total number of vehicles		402	374
TABLE 22 – PASSENGER TRANSPORT STOCK			
Stock at the end of the year			
Railway-owned vehicles for commercial purpose			
Stock			
Coaches		653	643
Railcars and railcar trailers		418	390
Total stock		1 071	1 033
of which air-conditioned carriages		389	350
of which restaurant cars		49	49
of which couchette coaches		–	–
of which sleeping cars		107	92
Number of places			
Seats			
1st class		2 572	2 404
2nd class		64 447	63 682
Couchettes 2nd class		–	–
Sleeping cars 1st and 2nd class (maximum number)		3 884	3 314
Seating and sleeping accommodation total		70 903	69 400
Vans			
Total stock		42	42

[1] Owned by Finnish Transport Agency.

[2] Lines fed by 25 000 volts, 50 cycle, alternating current (catenary system).

		2010	2009
TABLEAU 23 – MATERIEL DE TRANSPORT DE MARCHANDISES			
Effectifs à la fin de l'année			
Véhicules des réseaux			
Wagons couverts			
Effectif		4 052	4 119
dont à bogies		1 691	1 704
Capacité totale en tonnes		170 620	172 332
Wagons tombereaux			
Effectif		527	542
dont à bogies		477	492
Capacité totale en tonnes		26 581	27 506
Wagons plats			
Effectif		5 375	5 353
dont à bogies		3 563	3 504
Capacité totale en tonnes		262 602	259 671
Autres wagons			
Effectif		510	510
dont à bogies		510	510
Capacité totale en tonnes		29 575	28 599
Total des wagons			
Effectif		10 464	10 524
dont à bogies		6 241	6 210
Capacité totale en tonnes		489 378	488 107
Véhicules de particuliers			
Wagons			
Effectif total		67	57
Capacité totale en tonnes		2 699	2 518
TABLEAU 31 – EFFECTIF MOYEN ANNUEL DU PERSONNEL			
Administration générale			
Direction générale et Directions régionales		958	808
Exploitation ferroviaire			
Mouvement et trafic			
Services centraux et régionaux		262	283
Services des gares		1 116	1 114
Services des trains		2 090	2 179
Total		3 468	3 576
Matériel et traction			
Services centraux et régionaux		162	132
Services de conduite des véhicules moteurs		1 711	1 797
Ateliers principaux		526	557
Autre personnel		427	604
Total		2 826	3 090
Installations fixes			
Services centraux et régionaux		456	667
Entretien et surveillance des installations fixes		1 742	1 760
Total		2 198	2 427
Autres exploitations			
Services routiers		–	–
Diverses		95	48
Travaux d'établissement, de reconstruction, etc		..	..
Total du personnel du réseau			
Total du personnel		9 545	9 949
dont statutaires		9 286	9 583
Travailleurs fournis par des firmes		..	..
TABLEAU 41 – PARCOURS DES TRAINS			
Locomotives diesel			
Total	1 000 km	6 177	5 989
Affectées au trafic voyageurs	"	1 226	1 191
Affectées au trafic marchandises	"	4 951	4 798
Locomotives électriques			
Total	1 000 km	27 771	26 942
Affectées au trafic voyageurs	"	16 770	16 841
Affectées au trafic marchandises	"	11 001	10 101
Automotrices diesel			
Total	1 000 km	1 513	1 558
Affectées au trafic voyageurs	"	1 513	1 558

		2010	2009
TABLE 23 – FREIGHT TRANSPORT STOCK			
Stock at the end of the year			
Railway-owned vehicles			
Covered wagons			
Stock		4 052	4 119
of which bogie wagons		1 691	1 704
Total capacity in tonnes		170 620	172 332
High-sided open wagons			
Stock		527	542
of which bogie wagons		477	492
Total capacity in tonnes		26 581	27 506
Flat wagons			
Stock		5 375	5 353
of which bogie wagons		3 563	3 504
Total capacity in tonnes		262 602	259 671
Other wagons			
Stock		510	510
of which bogie wagons		510	510
Total capacity in tonnes		29 575	28 599
All wagons			
Stock		10 464	10 524
of which bogie wagons		6 241	6 210
Total capacity in tonnes		489 378	488 107
Private owner's vehicles			
Wagons			
Stock		67	57
Total capacity		2 699	2 518
TABLE 31 – ANNUAL MEAN STAFF STRENGTH			
General Management			
General headquarters and regional headquarters		958	808
Railway operations			
Operating and traffic			
Central and regional offices		262	283
Station services		1 116	1 114
Train services		2 090	2 179
Total		3 468	3 576
Traction and rolling stock			
Central and regional offices		162	132
Motor-vehicle driving staff		1 711	1 797
Main workshops		526	557
Other staff		427	604
Total		2 826	3 090
Permanent way			
Central and regional offices		456	667
Permanent way maintenance and supervision		1 742	1 760
Total		2 198	2 427
Other operations			
Road transport services		–	–
Miscellaneous		95	48
Net works, reconstruction, etc.		..	..
Total staff belonging to the railway			
Total staff		9 545	9 949
of which permanent staff		9 286	9 583
Staff supplied by contractors		..	..
TABLE 41 – TRAIN-KILOMETRES			
Diesel locomotives			
Total	1 000 km	6 177	5 989
Passenger traffic	"	1 226	1 191
Freight traffic	"	4 951	4 798
Electric locomotives			
Total	1 000 km	27 771	26 942
Passenger traffic	"	16 770	16 841
Freight traffic	"	11 001	10 101
Diesel railcars			
Total	1 000 km	1 513	1 558
Passenger traffic	"	1 513	1 558
Electric railcars			
Total	1 000 km	15 539	15 530
Passenger traffic	"	15 539	15 530

		2010	2009
Automotrices électriques			
Total	1 000 km	15 539	15 530
Affectées au trafic voyageurs	"	15 539	15 530
Tous modes de traction			
Total	1 000 km	51 000	50 019
Affectées au trafic voyageurs	"	35 048	35 120
Affectées au trafic marchandises	"	15 952	14 899
TABLEAU 42 – TONNAGE KILOMETRIQUE BRUT REMORQUE DES TRAINS			
Locomotives diesel			
Total	1 000 000 km	5 350	4 947
Affectées au trafic voyageurs	"	322	321
Affectées au trafic marchandises	"	5 028	4 626
Locomotives électriques			
Total	1 000 000 km	20 722	19 597
Affectées au trafic voyageurs	"	6 107	6 144
Affectées au trafic marchandises	"	14 665	13 453
Automotrices diesel			
Total	1 000 000 km	116	122
Affectées au trafic voyageurs	"	116	122
Affectées au trafic marchandises	"	–	–
Automotrices électriques			
Total	1 000 000 km	3 445	3 443
Affectées au trafic voyageurs	"	3 445	3 443
Tous modes de traction			
Total	1 000 000 km	29 683	28 109
Affectées au trafic voyageurs	1 000 000 km	9 990	10 030
Affectées au trafic marchandises	"	19 693	18 079
TABLEAU 43 – PARCOURS DU MATERIEL ROULANT[3]			
Parcours des véhicules moteurs par mode de traction			
Locomotives diesel	1 000 km	15 854	15 322
Locomotives électriques	"	32 234	31 181
Automotrices diesel	"	1 993	2 099
Automotrices électriques	"	20 741	20 642
Tous modes de traction	"	70 822	69 244
Voitures, automotrices et remorques d'automotrices (en wagon-kilomètres)		..	192
Wagons (en wagon-kilomètres)			
Total	1 000 000 km	434	405
dont chargés	"	238	221
TABLEAU 51 – TRAFIC COMMERCIAL VOYAGEURS			
Trafic ferroviaire			
Nombre de voyageurs			
Total	1 000	68 950	67 555
en 2ème classe	"	..	..
Nombre de voyageurs-kilomètres			
Total	1 000 000 km	3 959	3 876
en 2ème classe	"	..	..
Parcours moyen d'un voyageur	km	57,4	57,4
Bagages			
Automobiles accompagnées			
Nombre		43 029	46 278
Poids (en tonnes)		64 543	69 417
Autres			
Poids (en tonnes)		–	–

[3] Total des parcours sur le Réseau, y compris les véhicules étrangers.

		2010	2009
All types of traction			
Total	1 000 km	51 000	50 019
Passenger traffic	"	35 048	35 120
Freight traffic	"	15 952	14 899
TABLE 42 – TRAIN GROSS TONNE-KILOMETRES HAULED			
Diesel locomotives			
Total	1 000 000 km	5 350	4 947
Passenger traffic	"	322	321
Freight traffic	"	5 028	4 626
Electric locomotives			
Total	1 000 000 km	20 722	19 597
Passenger traffic	"	6 107	6 144
Freight traffic	"	14 665	13 453
Diesel railcars			
Total	1 000 000 km	116	122
Passenger traffic	"	116	122
Freight traffic	"	–	–
Electric railcars			
Total	1 000 000 km	3 445	3 443
Passenger traffic	"	3 445	3 443
All types of traction			
Total	1 000 000 km	29 683	28 109
Passenger traffic	"	9 990	10 030
Freight traffic	"	19 693	18 079
TABLE 43 – ROLLING STOCK-KILOMETRES [3]			
Tractive vehicle kilometres by type of traction			
Diesel locomotives	1 000 km	15 854	15 322
Electric locomotives	"	32 234	31 181
Diesel railcars	"	1 993	2 099
Electric railcars	"	20 741	20 642
All types of traction	"	70 822	69 244
Coaches, railcars and railcar trailers (in wagon-kilometres)		..	192
Wagons (in wagon-kilometres)			
Total	1 000 000 km	434	405
Loaded	"	238	221
TABLE 51 – REVENUE-EARNING PASSENGER TRAFFIC			
Rail traffic			
Number of passengers carried			
Total	1 000	68 950	67 555
2nd class	"	..	..
Number of passenger-kilometres			
Total	1 000 000 km	3 959	3 876
2nd class	"	..	..
Mean passenger distance	km	57.4	57.4
Baggage			
Accompanied cars			
Number		43 029	46 278
Weights (in tonnes)		64 543	69 417
Other			
Weight (in tonnes)		–	–
TABLE 61 – FREIGHT TRAFFIC			
Rail traffic			
Tonnes carried (in thousands)			
Revenue-earning traffic			
By traffic category			
Express parcels and smalls traffic		–	–
Full wagonloads		35 795	32 860
of which full trainloads		..	..
Empty private-owners' wagons		–	–
Total		35 795	32 860
Works traffic		6	5
Grand total		35 801	32 865
Tonne-kilometres			
Revenue-earning-traffic			
By traffic category			
Express parcels and smalls traffic	1 000 000 km	–	–

[3] Total kilometres on the railway network, including foreign vehicles.

		2010	2009
TABLEAU 61 – TRAFIC MARCHANDISES			
Trafic ferroviaire			
Tonnes transportées (en milliers)			
Transports commercieaux			
par catégorie de trafic			
Colis express et envois de détail		–	–
Wagons complets		35 795	32 860
dont par trains complets		..	..
Wagons de particuliers vides		–	–
Total		35 795	32 860
Transports en service		6	5
Total général		35 801	32 865
Tonnes-kilomètres			
Transports commerciaux			
par catégorie de trafic			
Colis express	1 000 000 km	–	–
Wagons complets	"	9 750	8 872
dont par trains complets	"	..	..
Wagons de particuliers vides	"	–	–
Total	"	9 750	8 872
Transports en service	"	4	2
Total général	"	9 754	8 874
Parcours moyen d'une tonne			
Transports commerciaux	km	272,5	270,0
dont transports intermodaux à charge et à vide			
Nombre d'unités intermodales transportées (en milliers)		68	83
Nombre de wagons chargés d'unités intermodales (en milliers)		50	63
Tonnes transportées (en milliers)		1 053	1 258
Tonnes kilomètres (en millions)		436	521

		2010	2009
Full wagonloads	"	9 750	8 872
of which full trainloads	"	..	..
Empty private-owners' wagons	"	–	–
Total	"	9 750	8 872
Works traffic		4	2
Grand total	"	9 754	8 874
Average length of haul of one tonne			
Revenue-earning traffic	km	272.5	270.0
of which loaded and empty			
intermodal traffic			
Number of intermodal units			
carried (in thousands)		68	83
Number of wagons loaded with			
intermodal units (in thousands)		50	63
Tonnes carried (in thousands)		1 053	1 258
Tonne-kilometres (in millions)		436	521

Liikennevirasto

Finnish Transport Agency

ISSN 1798-8128
ISBN 978-952-255-707-0
www.liikennevirasto.fi

ISSN 1799-4330
= Finnish Railway Statistics

ISSN 1796-0479
= Official Statistics of Finland